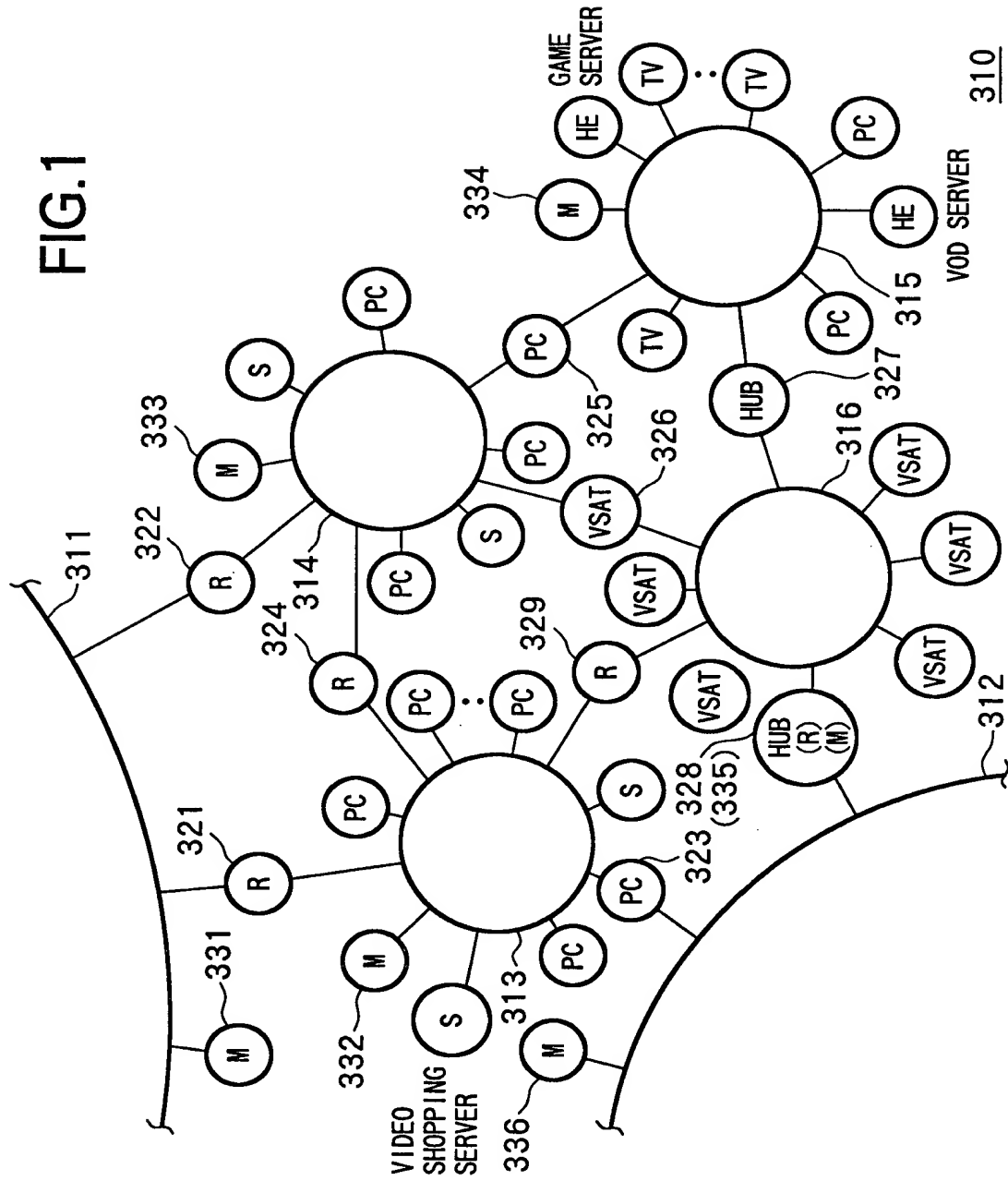


**FIG. 1**



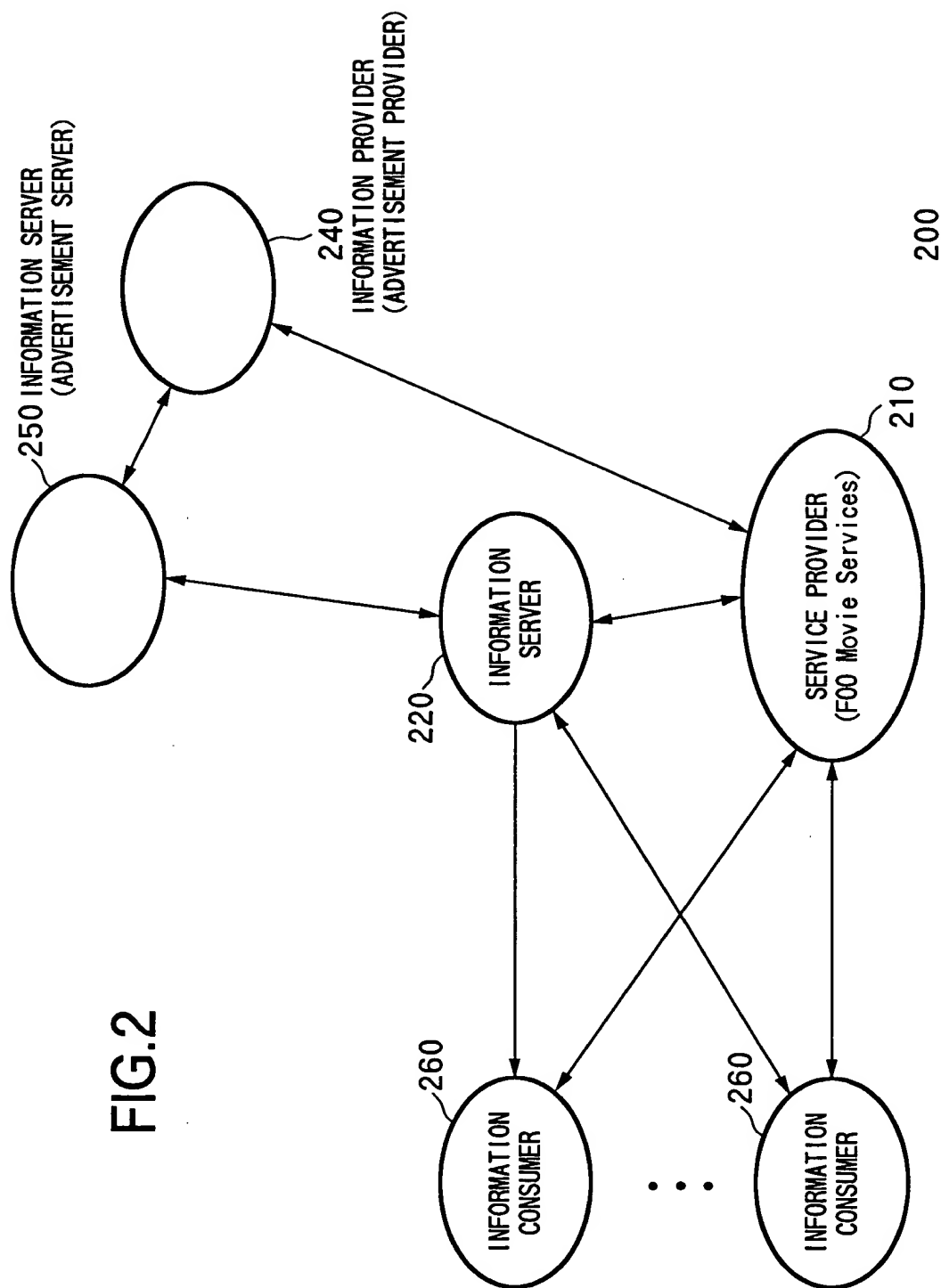


FIG.3

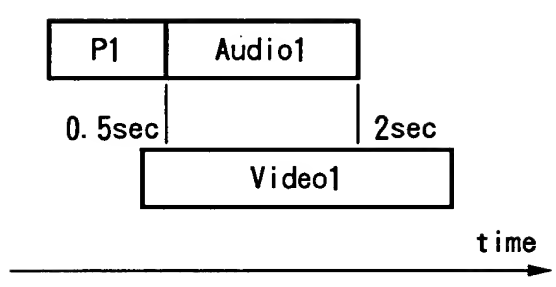


FIG.4

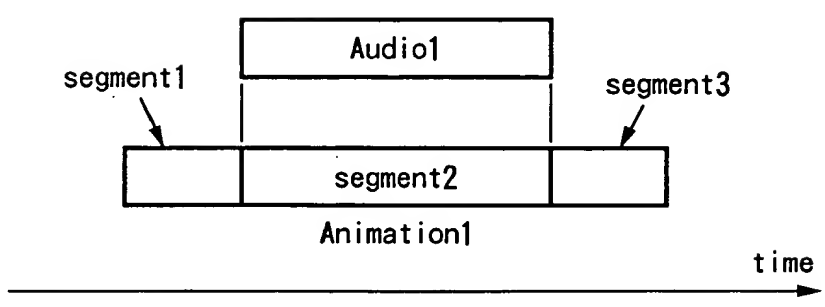
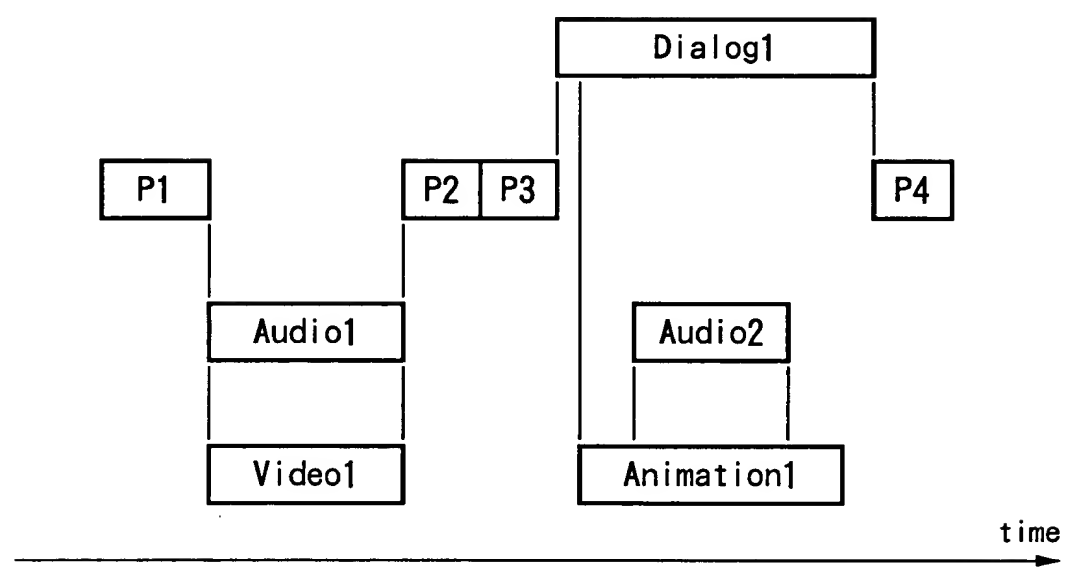


FIG.5



## FIG.6A

```
<!ENTITY picture1
  <picture hsize=300 vsize=200 color=256>
    <source> <local-link> picture-link1 </local-link> </source>
  </picture>>
<!ENTITY picture2
  <picture hsize=300 vsize=200 color=256>
    <source> <local-link> picture-link2 </local-link> </source>
  </picture>>
<!ENTITY picture3
  <picture hsize=300 vsize=200 color=256>
    <source> <local-link> picture-link3 </local-link> </source>
  </picture>>
<!ENTITY picture4
  <picture hsize=300 vsize=200 color=256>
    <source> <local-link> picture-link4 </local-link> </source>
  </picture>>
```

## FIG.6B

```
<!ENTITY audio1
  <audio sampling-size=16>
    <source> <local-link> audio-link1 </local-link> </source>
  </audio>>
<!ENTITY audio2
  <audio sampling-size=16>
    <source> <local-link> audio-link2 </local-link> </source>
  </audio>>
```

## FIG.7A

<!ENTITY video1

```
<video hsize=450 vsize=300 color=16 frame-rate=30>
  <source> <local-link> video-link1 </local-link> </source>
</video>>
```

## FIG.7B

<!ENTITY animation1

```
<animation hsize=400 vsize=300 color=8 frame-rate=15>
  <source> <local-link> animation-link1 </local-link> </source>
  <segment begin=0 end=70> segment1 </segment>
  <segment begin=70 end=100> segment2 </segment>
  <segment begin=100> segment3 </segment>
</animation>>
```

## FIG.7C

<!ENTITY dialog1

```
<dialog>
  <title> Movie Search </title>
  Search for <input type=text size=45> pattern </input>
  Joined by:<input type=radio value="AND" value="OR">
    bool</input>
  Partial Match:<input type=radio value="Yes" value="No">
    match</input>
  <input type=action value="Search"> search </input>
  <action> search
    <local-link> server-action-link1 </local-link>
    bool match <action>
</dialog>
```

FIG.8A

```
<!ENTITY viewer1
  <viewer min-hsize=440 min-vsize=330> </viewer>>
```

FIG.8B

```
<open-window> & viewer1 </open-window>
<before delay=0 max-skew=500 duration=3> & picture1 & audio1 </before>
<while delay1=0 delay2=0 max-skew=80> & audio1 & video1 </while>
<before delay=0 max-skew=500> & audio1 & picture2 </before>
  <before delay=0 max-skew=500 duration=2> & picture2 & picture3 </before>
  <before delay=0 max-skew=500 duration=2> & picture3 & dialog1 </before>
  <while delay1=0.5 delay2=2 max-skew=120> & animation1 & dialog1 </while>
  <while delay1=0 delay2=0 max-skew=80>
    & audio2
    <subsequence segment=segment2> & animation1 </subsequence>
  </while>
<before delay=0 max-skew=500> & dialog1 & picture4 </before>
```

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FIG.9

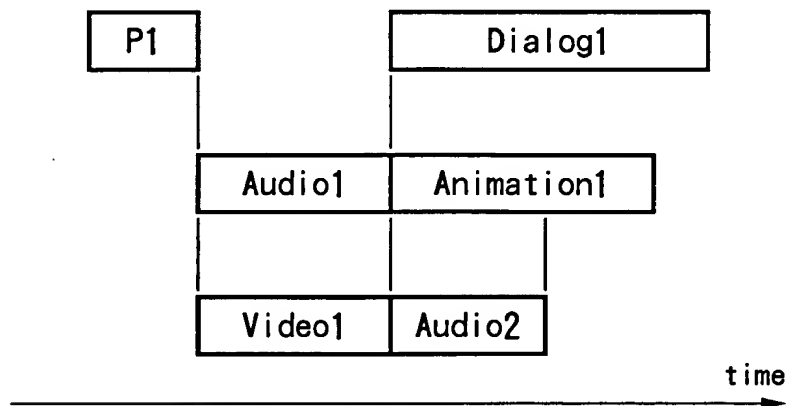
Movie Search

Search for

Joined by: ☒ AND ☐ OR

Partial Match: ☒ Yes ☐ No

FIG.10





# FOO Movie Services

## Star Wars

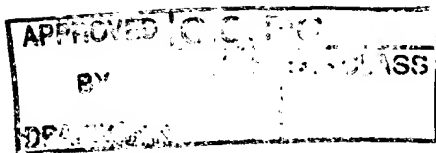
## Empire Strikes Back

Return of the Jedi

## The Ten Commandments

## Kagemusha

Japan 1980:Drama/War PG 159 min.Maltin:\*\*\*\*  
Director: Akira Kurosawa  
Starring: Tatsuya Nakadai



## FIG.12

```

<package>
  <title format=DVL version=2.0>
    <cover format=jpeg> & cover-description </cover>
    <name>"FOO Movie Services:MOVIE TITLES" </name>
    <sort> CONTENT <minor-sort> CATALOG </minor-sort> </sort>
    <system> PACKAGE-PROCESSOR </system>
    <structure> <linkage> <local-link> & linkage-part </local-link> </linkage>
      <content-attributes> <local-link> & content-attribute-part </local-link>
        </content-attributes>
      <control-attributes> <local-link> & control-attribute-part </local-link>
        </control-attributes>
      <sequences> <local-link> & sequence-part </local-link> </sequences>
    </structure>
    <!ENTITY cover-description {jpeg data body}>
  </title>

```

## FIG.13

<!ENTITY linkage-part

<linkage>

<link boundary=internal> <label> picture-link1 </label>

net-resource://picture-server/picture11 </link>

<link boundary=internal> <label> audio-link1 </label>

net-resource://audio-server/audio11 </link>

<link boundary=internal> <label> audio-link2 </label>

net-resource://audio-server/audio12 </link>

<link boundary=internal> <label> video-link1 </label>

net-resource://video-server/video11 </link>

<link boundary=internal> <label> animation-link1 </label>

net-resource://animation-server/animation11 </link>

<link boundary=external> <label> package-link2 </label>

net-resource://package-server/package2

<content>

<type> movie </type>

<provider> F00 Movie Services </provider>

</content>

<control> admission-required <control>

</link>

<link boundary=external> <label> package-link3 </label>

net-resource://package-sever/package3

<content>

<type> movie </type>

<provider> F00 Movie Services </provider>

</content>

<control> admission-required <control>

</link>

FIG.14

```
<link boundary=external> <label> package-link4 </label>
  net-resource://package-sever/package4
  <content>
    <type> movie </type>
    <provider> F00 Movie Services </provider>
  </content>
  <control> admission-required <control>
</link>
<link boundary=external> <label> package-link5 </label>
  net-resource://package-sever/package5
  <content>
    <type> movie </type>
    <provider> F00 Movie Services </provider>
  </content>
  <control> admission-required <control>
</link>
<link boundary=external> <label> package-link6 </label>
  net-resource://package-sever/package6
  <content>
    <type> movie </type>
    <provider> F00 Movie Services </provider>
  </content>
  <control> admission-required <control>
</link>
</linkage>>
```

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## FIG.15

<!ENTITY content-attribute-part

<content-attributes>

<type> catalog </type>

<provider> F00 Movie Services </provider>

<release> July 1997 edition </release>

<data> 1 July 1997 </data>

<items> 5 </items>

</content-attributes>>

<!ENTITY control-attribute-part

<control-attributes>

<billing> free </billing>

<execution-environment>

<user-unit-requirement>

<memory-space> 2 </memory-space>

<graphics> 640×480×16 </graphics>

<audio> 16 </audio>

</user-unit-requirement>

</execution-environment>

<encryption scheme=RSA key-sort=open> #87654321098765 </encryption>

</control-attributes>

## FIG.16

```

<!ENTITY sequence-part
<sequences>
  <!ENTITY picture1
    <picture hsize=300 vsize=200 color=256>
      <source> <local-link> picture-link1 </local-link> </source>
    </picture>>
  <!ENTITY audio1
    <audio sampling-size=16>
      <source> <local-link> audio-link1 </local-link> </source>
    </audio>>
  <!ENTITY audio2
    <audio sampling-size=16>
      <source> <local-link> audio-link2 </local-link> </source>
    </audio>>
  <!ENTITY vidio1
    <video hsize=450 vsize=300 color=16 frame-rate=30>
      <source> <local-link> video-link1 </local-link> </source>
    </video>>
  <!ENTITY animation1
    < animation hsize=400 vsize=300 color=8 frame-rate=15>
      <source> <local-link> animation-link1 </local-link> </source>
    </animation>>
  <!ENTITY dialog1
    <div style="border: 1px solid black; padding: 5px; text-align: center;">
      CONTENTS OF THE DIALOG1
    </div>
  <!ENTITY viewer1
    <viewer min-hsize=440 min-vsize=330> </viewer>>
  <open-window> & viewer1 </open-window>
  <before delay=0 max-skew=500 duration=2> & picture1 & audio1 </before>
  <while delay1=0 delay2=0 max-skew=80> & audio1 & video1 </while>
  <before delay=0 max-skew=500> & audio1 & dialog1 </before>
  <cobegin delay=0 max-skew=120> & animational & dialog1 </cobegin>
  <while delay1=0 delay2=0 max-skew=80> & audio2 & animation1 </while>
</sequences>>
</package>>

```

## FIG.17

<dialog>

<title> F00 Movie Services </title>

Please Select Movie Title

<action> take <local-link> package-link2 </local-link>

"Star Wars"

</action>

USA 1977:Science Fiction PG 121 min. Maltin:\*\*\*\*

Director:George Lucas

Starring:Mark Hamill, Harrison Ford, Carrie Fisher

<action> take <local-link> package-link3 </local-link>

"Empire Strikes Back"

</action>

USA 1980:Science Fiction PG 124 min. Maltin:\*\*\*\*

Director:Irvin Kershner

Starring:Mark Hamill, Harrison Ford, Carrie Fisher

<action> take <local-link> package-link4 </local-link>

"Return of the Jedi"

</action>

USA 1983:Science Fiction PG 133 min. Maltin:\*\*\*\*

Director:Richard Marquand

Starring:Mark Hamill, Harrison Ford, Carrie Fisher

<action> take <local-link> package-link5 </local-link>

"The Ten Commandments"

</action>

USA 1956:Religious NR 220 min. Maltin:\*\*\*\*

Director:Cecil B. De Mile </list>

Starring:Charlton Heston, Yul Brynner

<action> take <local-link> package-link6 </local-link>

"Kagemusha"

</action>

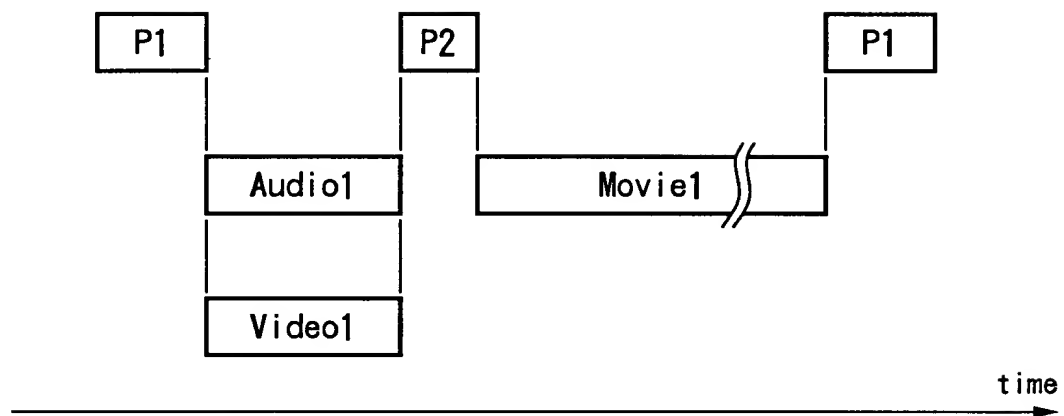
Japan 1980:Drama/War PG 159 min. Maltin:\*\*\*\*

Director:Akira Kurosawa

Starring:Tatsuya Nakadai

</dialog>>

FIG.18





## FIG.19

```
<package>
  <title format=DVL version=2.0>
    <cover format=jpeg> & cover-description </cover>
    <name>"FOO Movie Services:Star Wars" </name>
    <sort> CONTENT <minor-sort> MOVIE </minor-sort> </sort>
    <system> PACKAGE-PROCESSOR </system>
    <structure> <linkage> <local-link> & linkage-part </local-link> <linkage>
      <content-attributes> <local-link> & content-attribute-part </local-link>
        </content-attributes>
      <control-attributes> <local-link> & control-attribute-part </local-link>
        </control-attributes>
      <sequences> <local-link> & sequence-part </local-link> </sequences>
    </structure>
    <!ENTITY cover-description {jpeg data body}>
  </title>
<!ENTITY linkage-part
<linkage>
  <link boundary=internal> <label> picture-link1 </label>
    net-resource://picture-server/picture21 </link>
  <link boundary=internal> <label> picture-link2 </label>
    net-resource://picture-server/picture22 </link>
  <link boundary=internal> <label> audio-link1 </label>
    net-resource://audio-server/audio21 </link>
  <link boundary=internal> <label> video-link1 </label>
    net-resource://vidio-server/video21 </link>
  <link boundary=internal> <label> movie-link1 </label>
    net-resource://movie-server/movie21 </link>
</linkage>>
```

864060" 22347160



## FIG.20

<!ENTITY content-attribute-part

<content-attributes>

<type> movie </type>

<provider> F00 Movie Services </provider>

<data> 1 July 1997 </data>

<items> 1 </items>

<material format=MPEG2> MOVIE </material>

<content>

<title> Star Wars </title>

<type> Science Fiction </type>

<producer> Gary Kurtz </producer>

<director> George Lucas </director>

<composer> John Williams </composer>

<starring> Mark Hamill </starring>

<starring> Harrison Ford

<occupation> Actor </occupation>

<born> July 13, 1942, Chicago, IL, USA </born>

<education> Ripon College, WI, USA </education>

</starring>

<starring> Carrie Fisher </starring>

<color> color </color>

<length unit=minute> 121 </length>

<year> 1977 </year>

<country> USA </country>

<language> English </language>

<rating authority=MPAA> PG </rating>

<review reviewer=Leonard Maltin> \*\*\*\* </review>

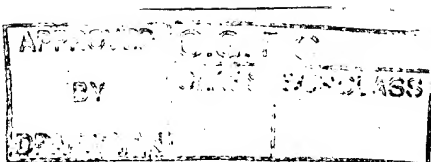
<review reviewer=Baseline's Motion Picture Guide> \*\*\*\*\* </review>

<award authority=Academy> Art Direction/Set Decoration 1977 </award>

<award authority=Academy> Costume Design 1977 </award>

</content>

</content-attributes>>



## FIG.21

<ENTITY control-attribute-part

<control-attributes>

<billing unit=30 second amount=1.5 currency=JPY>

usage-based

<local-link> & movie1 </local-link>

</billing>

<admitted-consumers>

<certification> F00 Movie Customers </certification>

</admitted-consumers>

<access-conditions> parental-guidance </access-conditions>

<execution-environment>

</user-unit-requirement>

<hard-drive-space> 40 </hard-drive-space>

<memory-space> 8 </memory-space>

<graphics> 640×480×16 </graphics>

<audio> 16 </audio>

<user-unit-requirement>

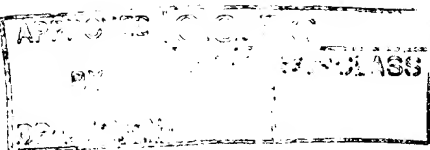
</execution-environment>

<encryption scheme=RSA key-sort=open> #87654321098765 </encryption>

</control-attributes>

## FIG22

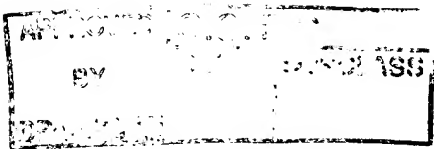
```
<!ENTITY sequence-part
<sequences>
  <!ENTITY picture1
    <picture hsize=300 vsize=200 color=256>
      <source> <local-link> picture-link1 </local-link> </source>
    </picture>>
  <!ENTITY picture2
    <picture hsize=300 vsize=200 color=256>
      <source> <local-link> picture-link2 </local-link> </source>
    </picture>>
  <!ENTITY audio1
    <audio sampling-size=16>
      <source> <local-link> audio-link1 </local-link> </source>
    </audio>>
  <!ENTITY video1
    <video hsize=450 vsize=300 color=256 frame-rate=30>
      <source> <local-link> video-link1 </local-link> </source>
    </video>>
  <!ENTITY movie1
    <video hsize=450 vsize=300 color=256 format=MPEG2>
      <source> <local-link> movie-link1 </local-link> </source>
    </video>>
  <!ENTITY viewer2
    <viewer min-hsize=440 min-vsize=330> </viewer>>
    <open-window> & viewer2 </open-window>
    <before delay=0 max-skew=500 duration=3> & picture1 & audio1 </before>
    <while delay1=0 delay2=0 max-skew=80> & audio1 & video1 </while>
    <before delay=0 max-skew=500> & audio1 & picture2 </before>
    <before delay=0 max-skew=500 duration=2> & picture2 & movie1 </before>
    <before delay=0 max-skew=500> & movie1 & picture1 </before>
  </sequences>>
</package>
```



## FIG.23

```
<package>
  <title format=DVL version=2.0>
    <cover> Authentication </cover>
    <name>"Authentication F00 Movie Services" </name>
    <sort> VOUCHER <minor-sort> AUTHNTICATION </minor-sort> </sort>
    <structure>
      <encrypted scheme=RSA key=#87654321098765 key-sort=open>
        <content-attributes>
          <user> Japan Taro </user>
          <account> #55443322 </sccount>
          <age> 25 </age>
          <data> 9 August 1997 </data>
          <time> 19:45 JST </time>
        </content-attributes>
        <control-attributes>
          <settlement> charge
            <credit-card> VISA </credit-card>
            <card-number> 0123 4567 8901 2345 </card-number>
            <holder> Japan Taro </holder>
            <expires> June 1999 </expires>
          </settlement>
        </control-attributes>
      <sequences>
        <text>
          <certification> F00 Movie Customers </certification>
          <name> "F00 Movie Services:Star Wars" </name>
          <reference> net-resource://movie-server/movie1 </reference>
        </text>
      </sequences>
    </encrypted>
  </structure>
</title>
</package>
```

FIG. 23

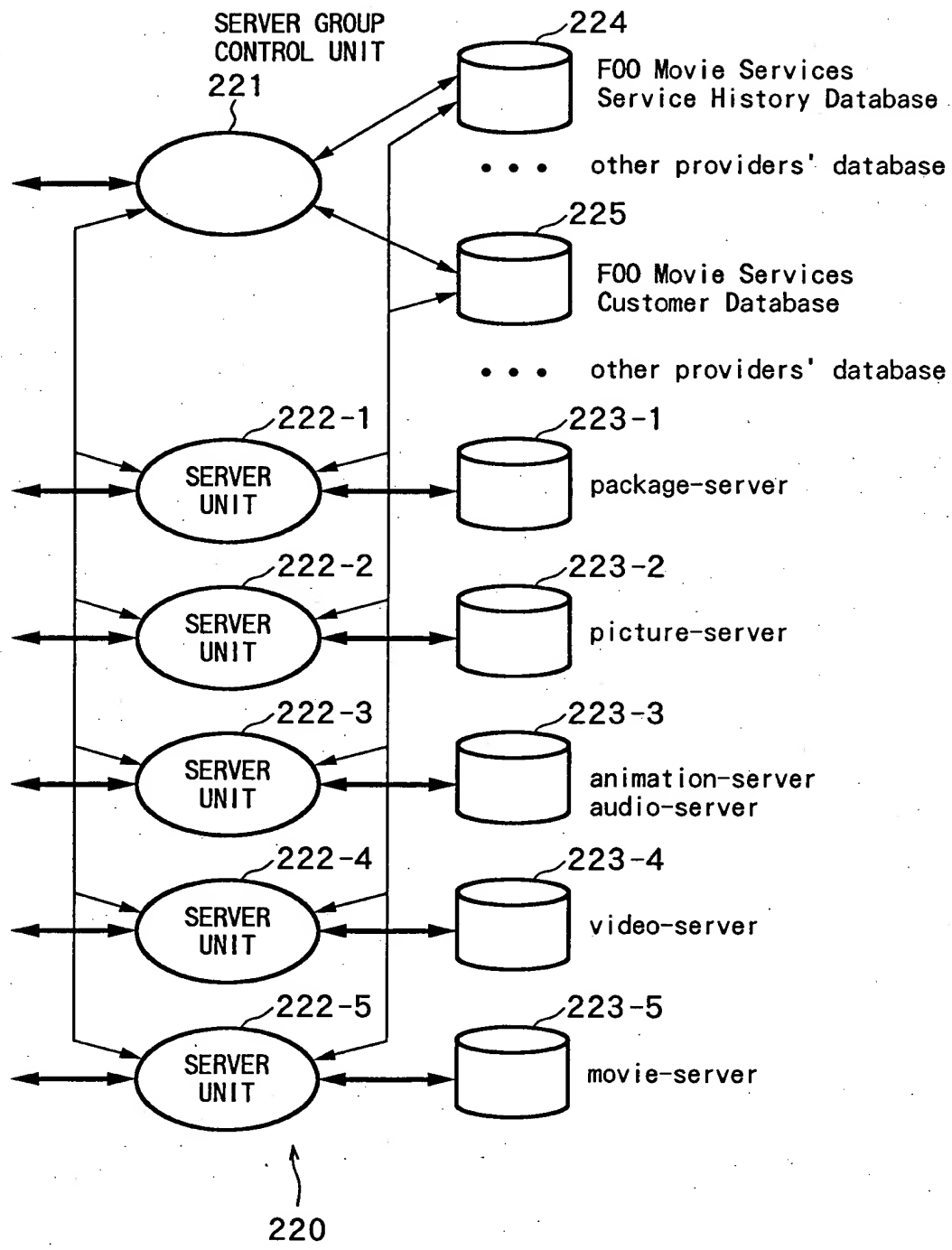


## FIG.24

```
<package>
  <title format=DVL version=2.0>
    <cover> Bill </cover>
    <name>"Bill: F00 Movie Services" </name>
    <sort> VOUCHER <minor-sort> BILL </minor-sort> </sort>
    <structure>
      <encrypted scheme=RSA key=#32109876543210 key-sort=open>
        <content-attributes>
          <sender> F00 Movie Services </sender>
          <data> 31 August 1997 </data>
          <time> 9:00 EDT </time>
        </content-attributes>
        <control-attributes>
          <billing currency=USD> 1,200 </billing>
          <settlement> money-transfer
            <bank> Bank Antarctica </bank>
            <branch> New York </branch>
            <holder> F00 Movie Services </holder>
            <account> 012345-678901 </account>
          </settlement>
        </control-attributes>
        <sequences>
          <text>
            <customer> BAR Food Services </customer>
            <content> Request for Monthly Payment </content>
          </text>
        </sequences>
      </encrypted>
    </structure>
  </title>
</package>
```

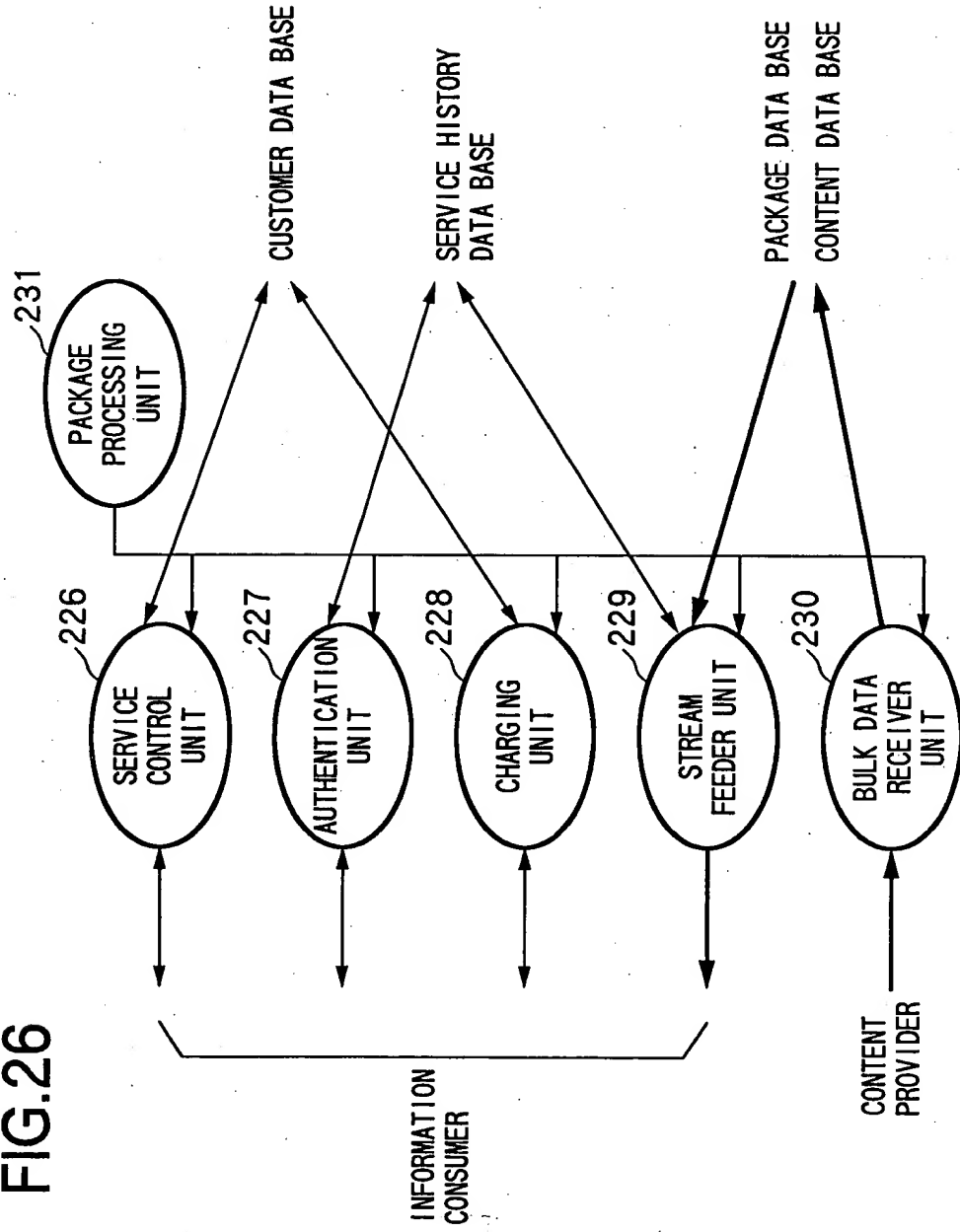
564060" 22084760

FIG.25

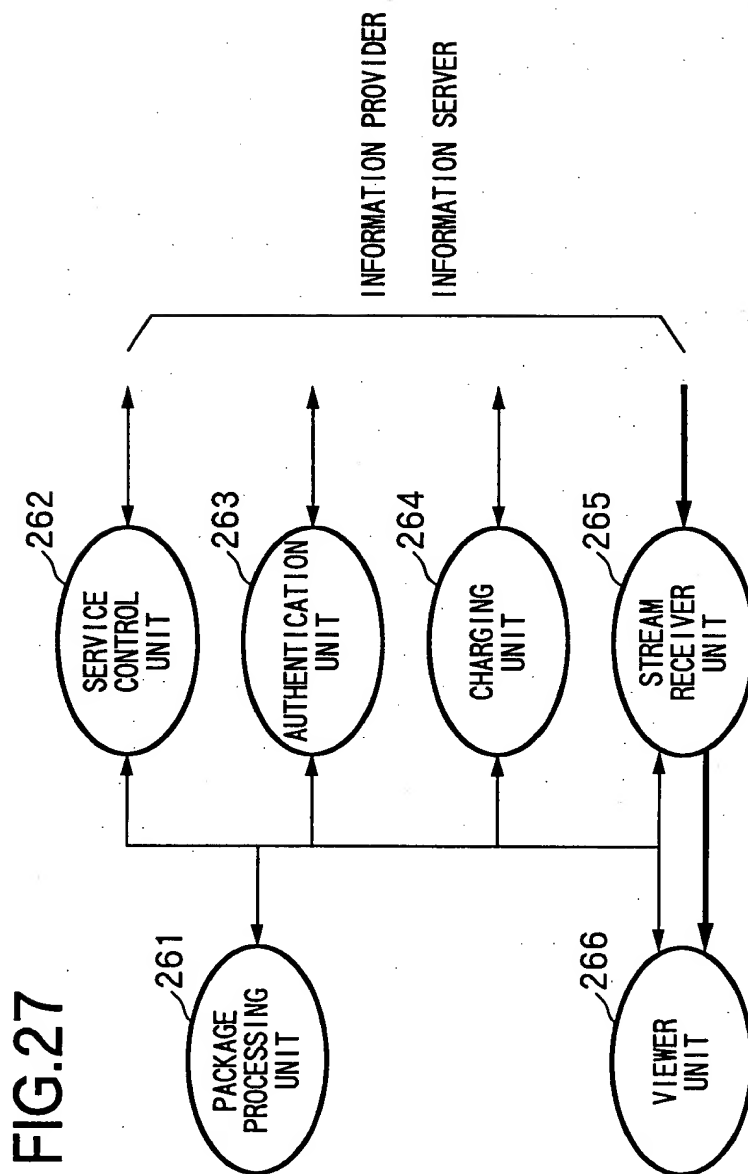


Approved for Release 2001/08/01 : CIA-RDP80-01080A000100010001-5

FIG.26







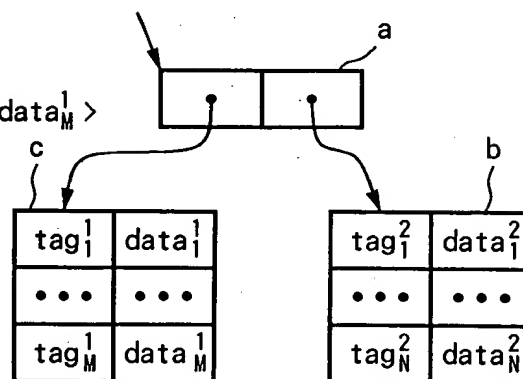


FIG.29

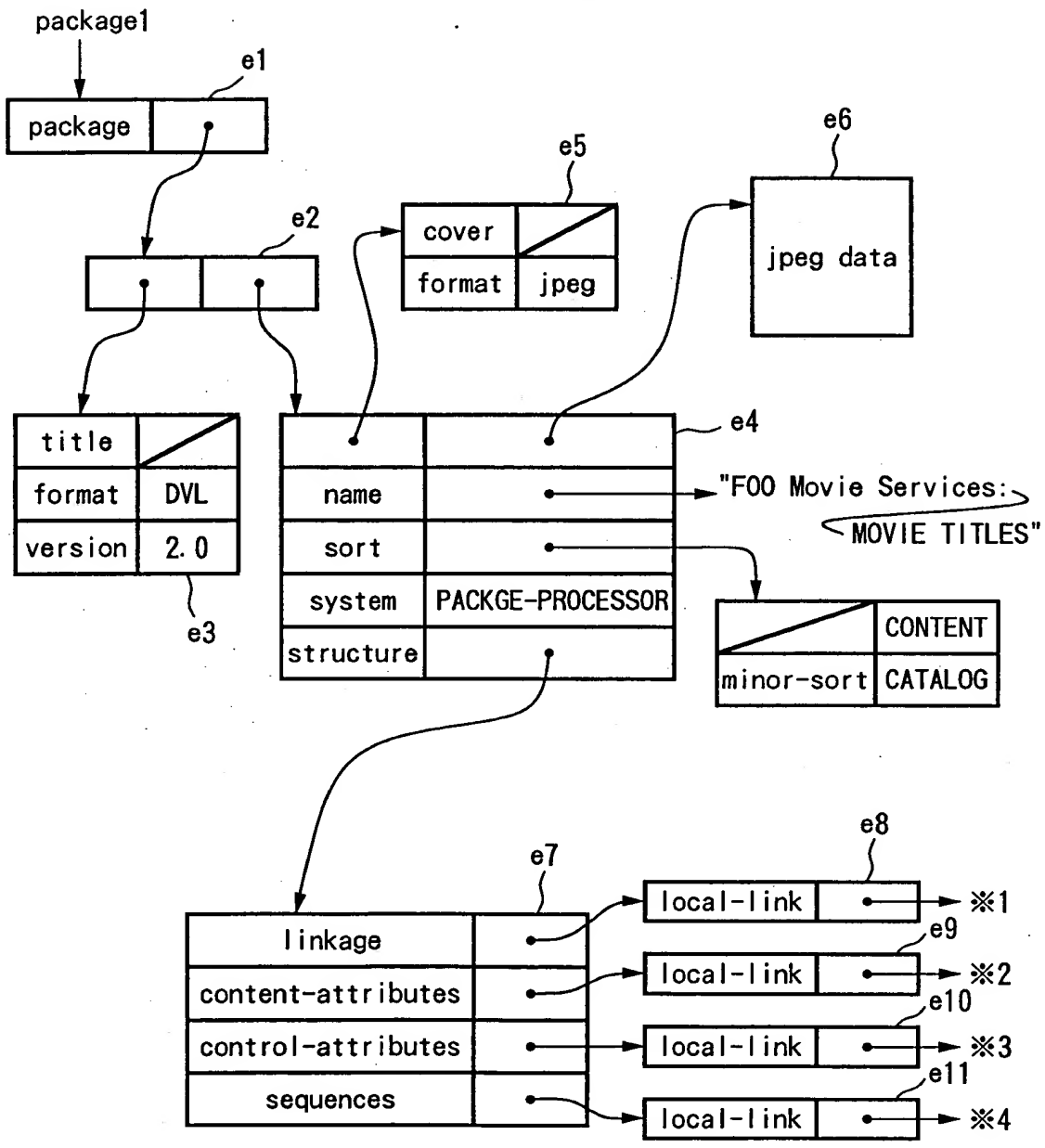


FIG.30

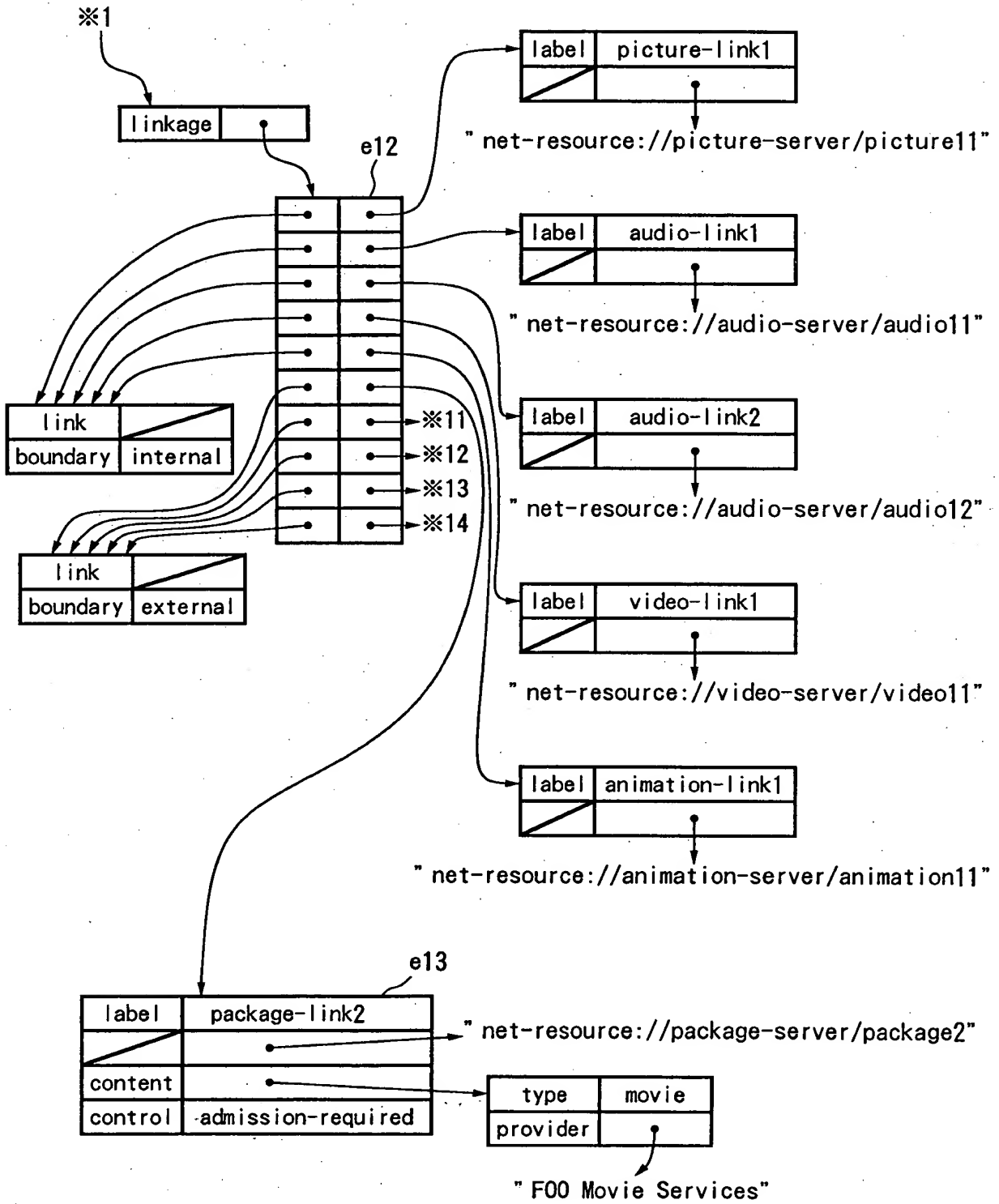


FIG.31

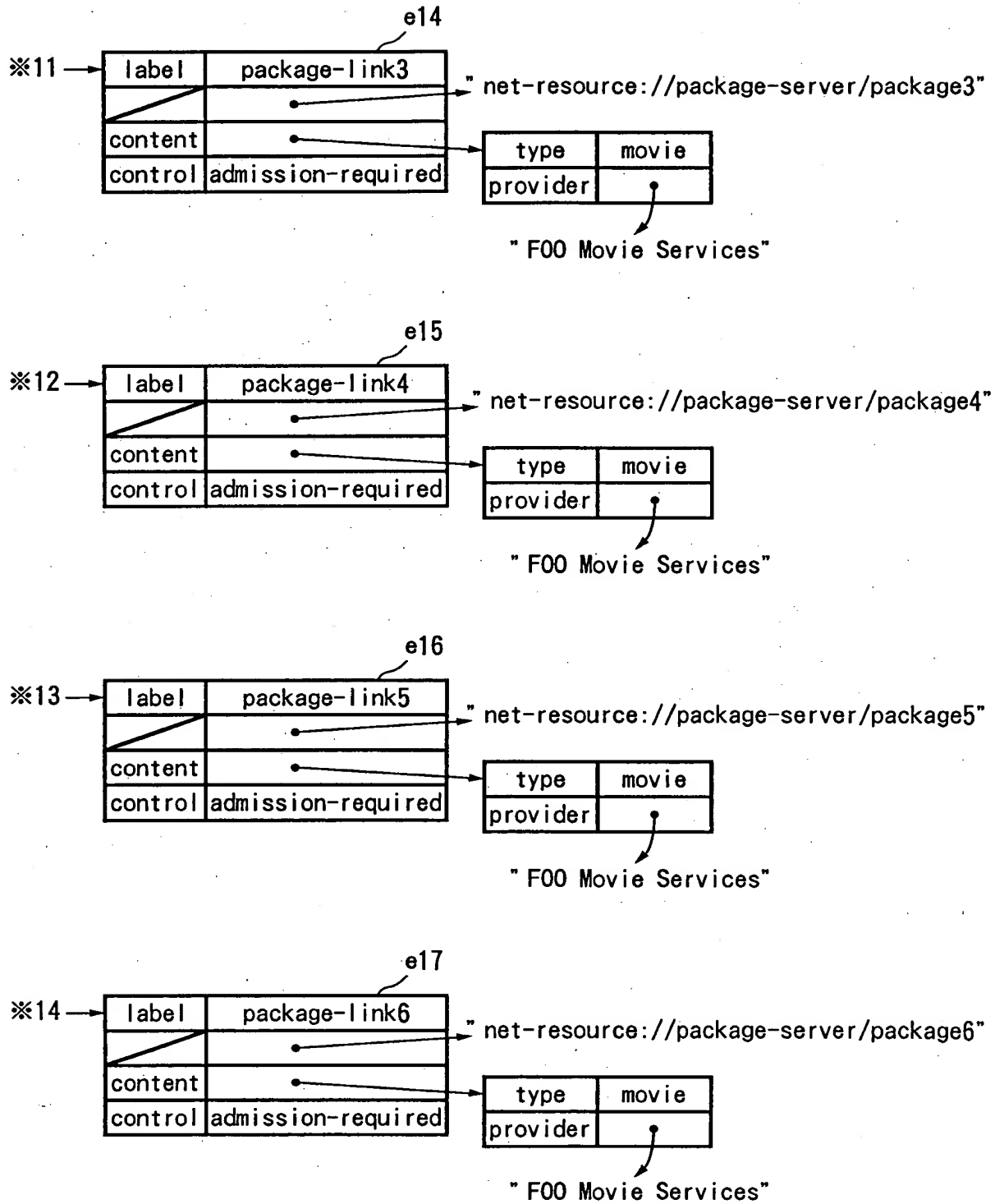
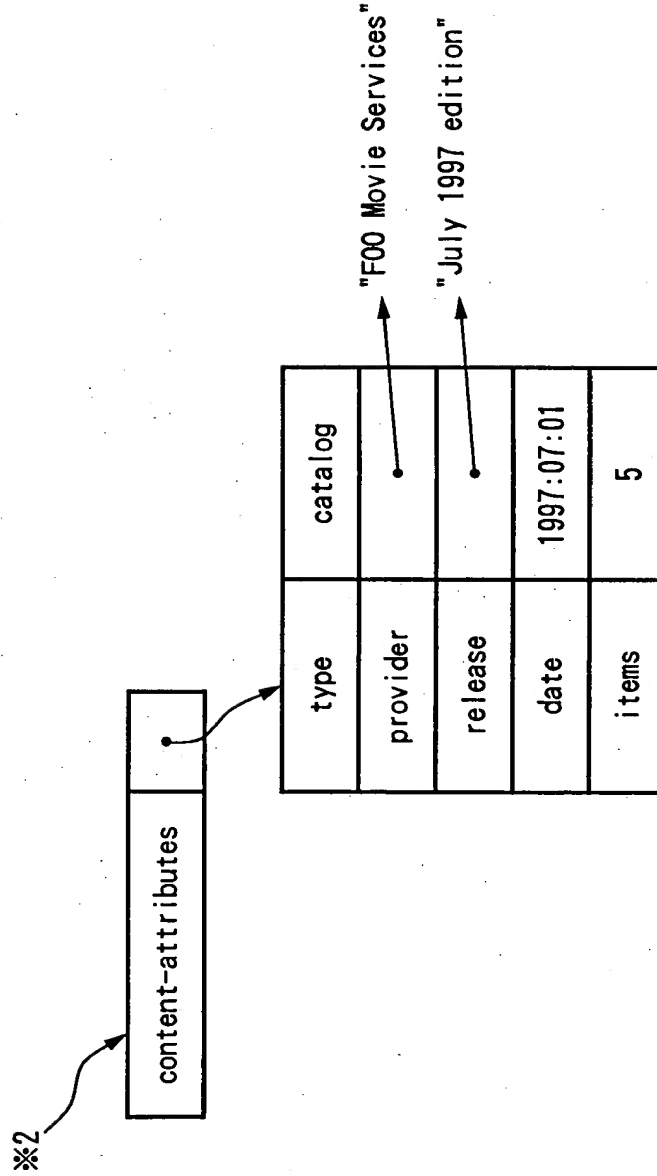


FIG.32





# FIG.34

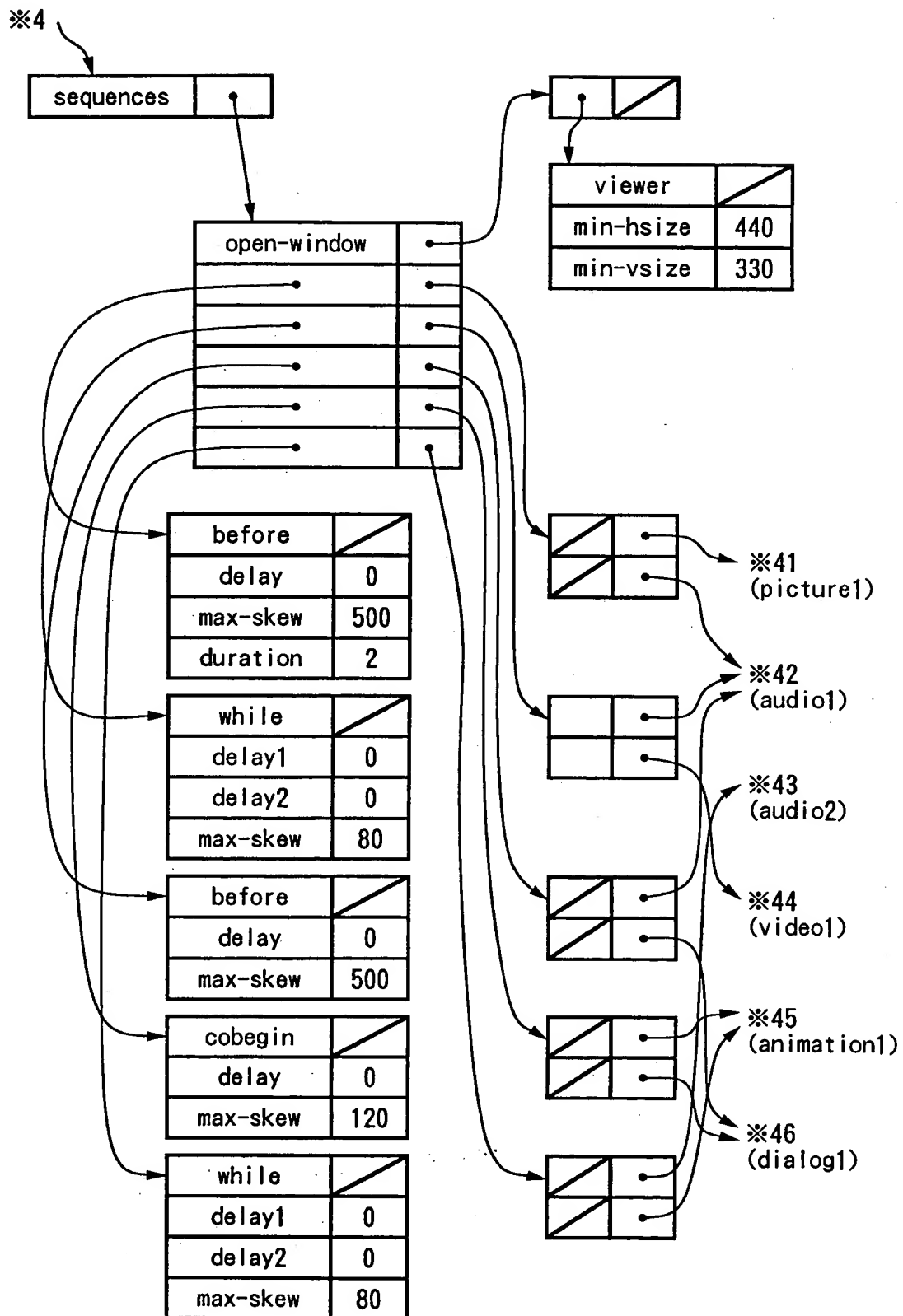




FIG. 35

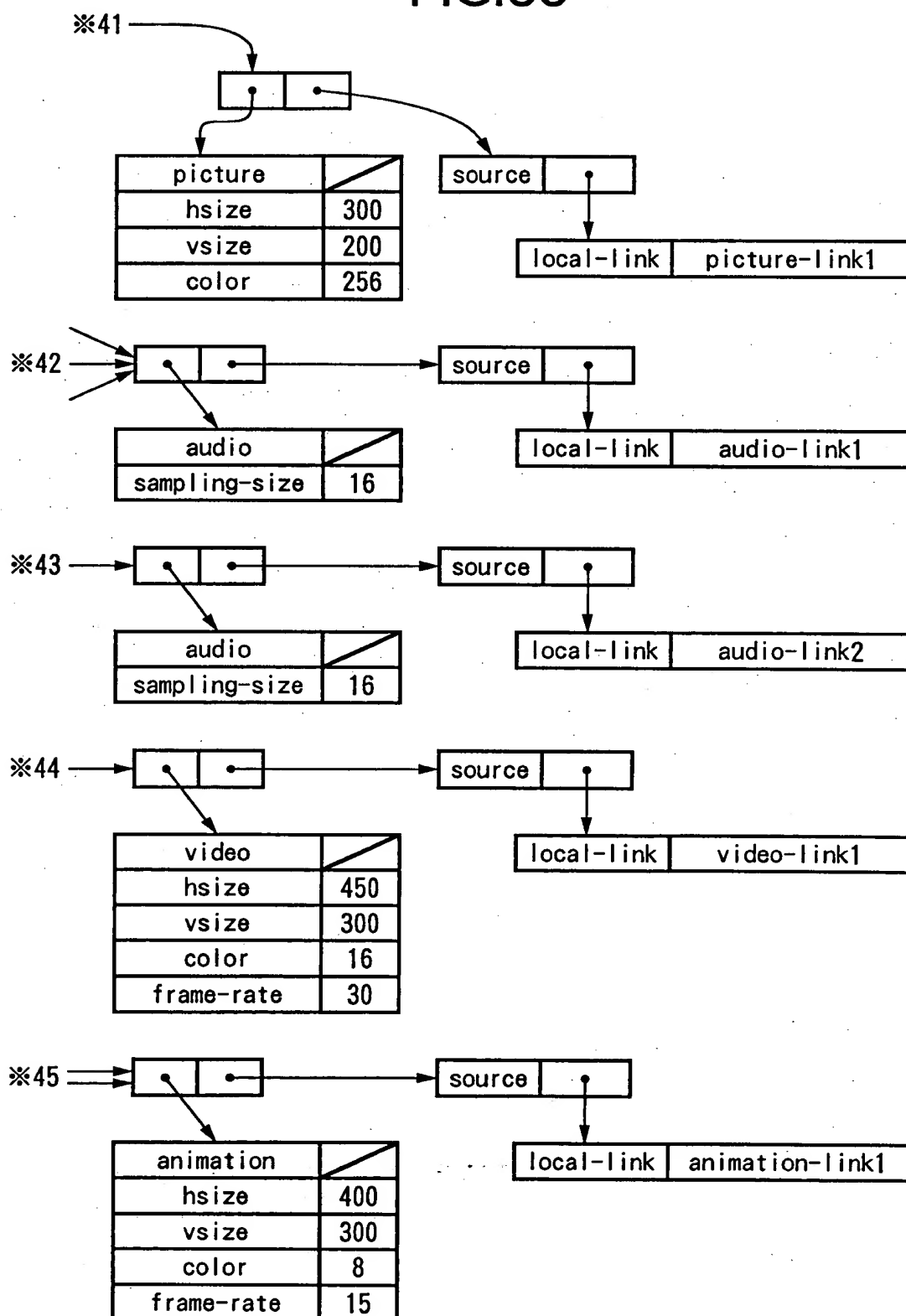


FIG.36

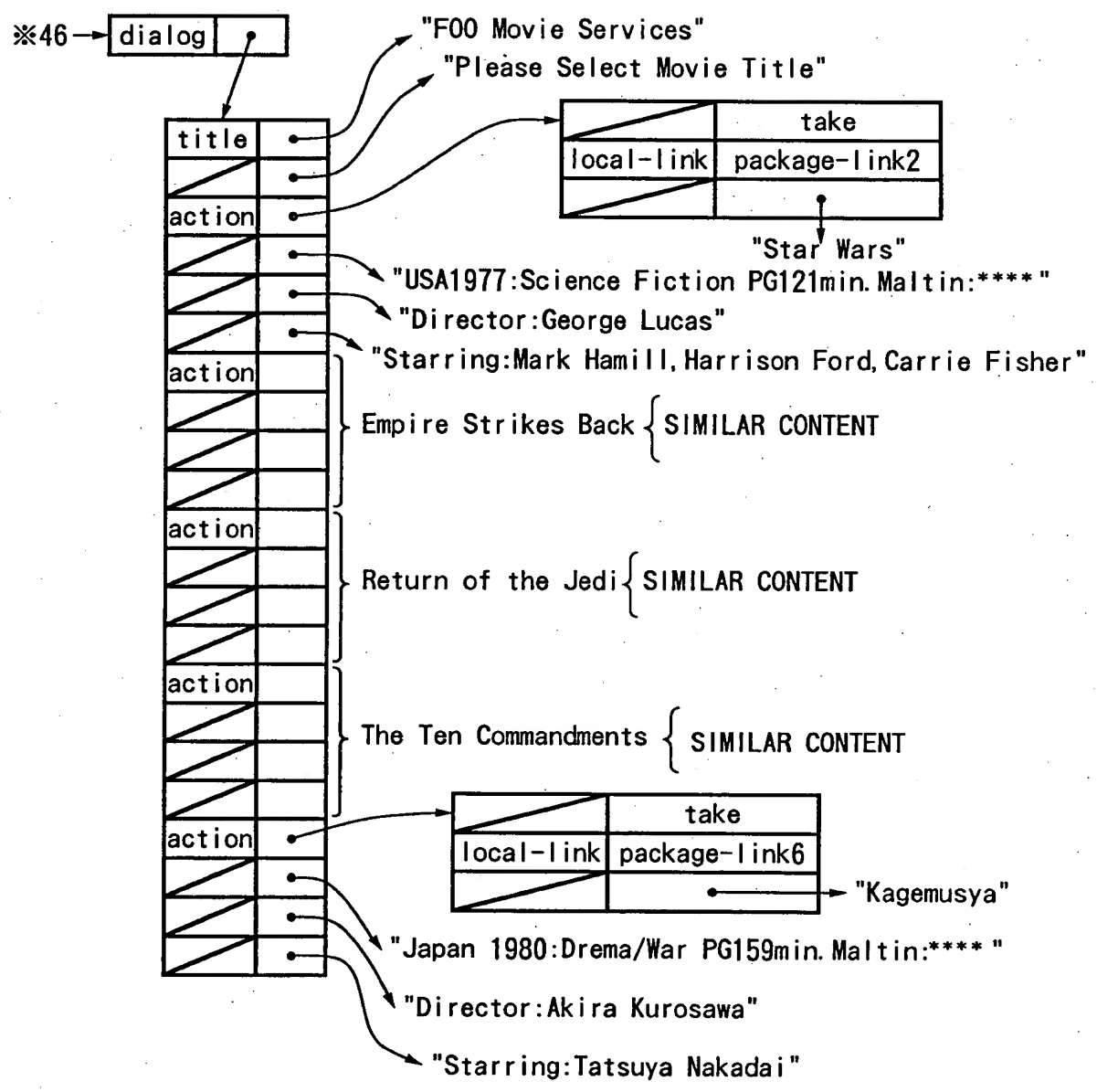


FIG.37

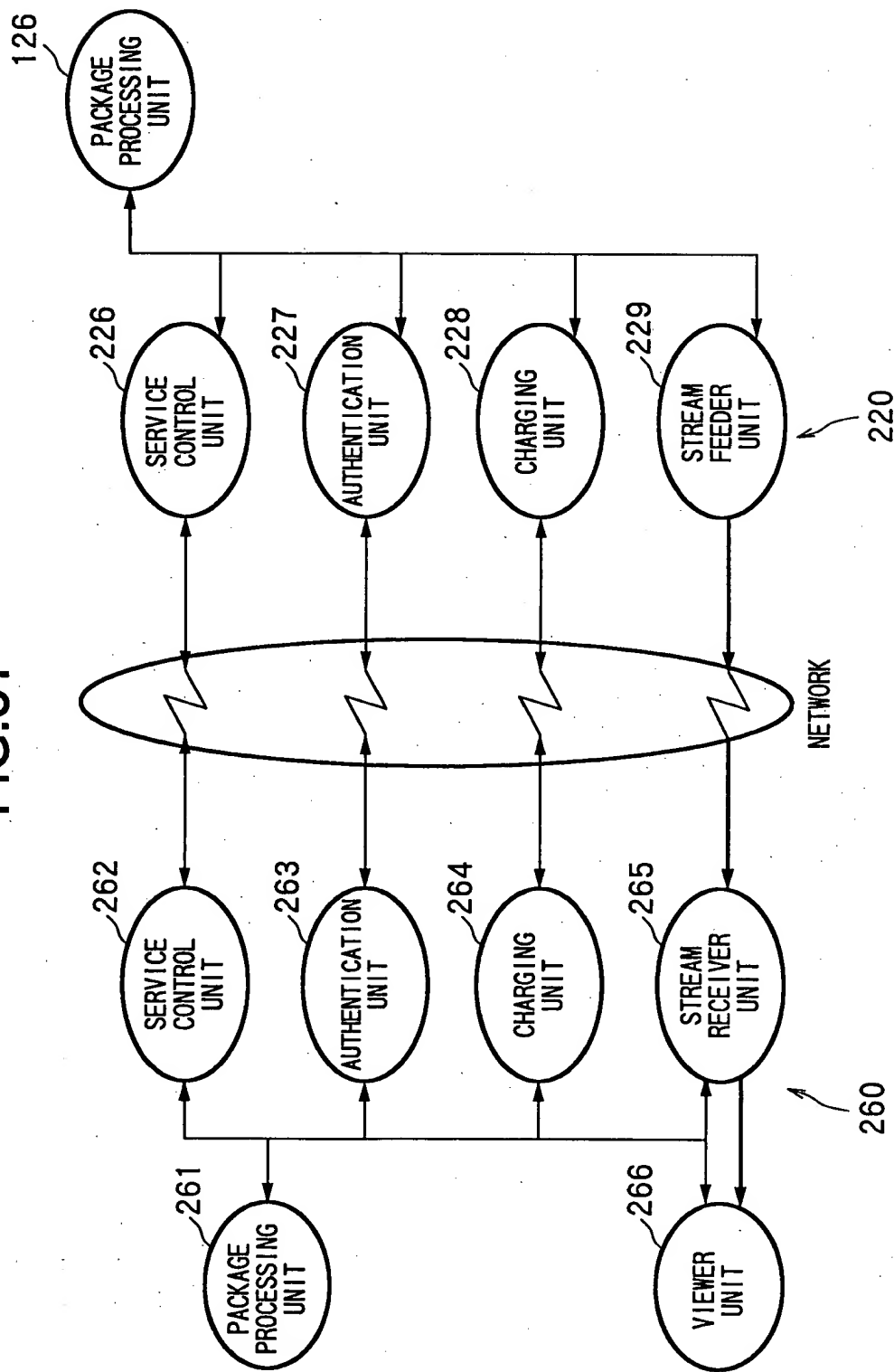


FIG.38

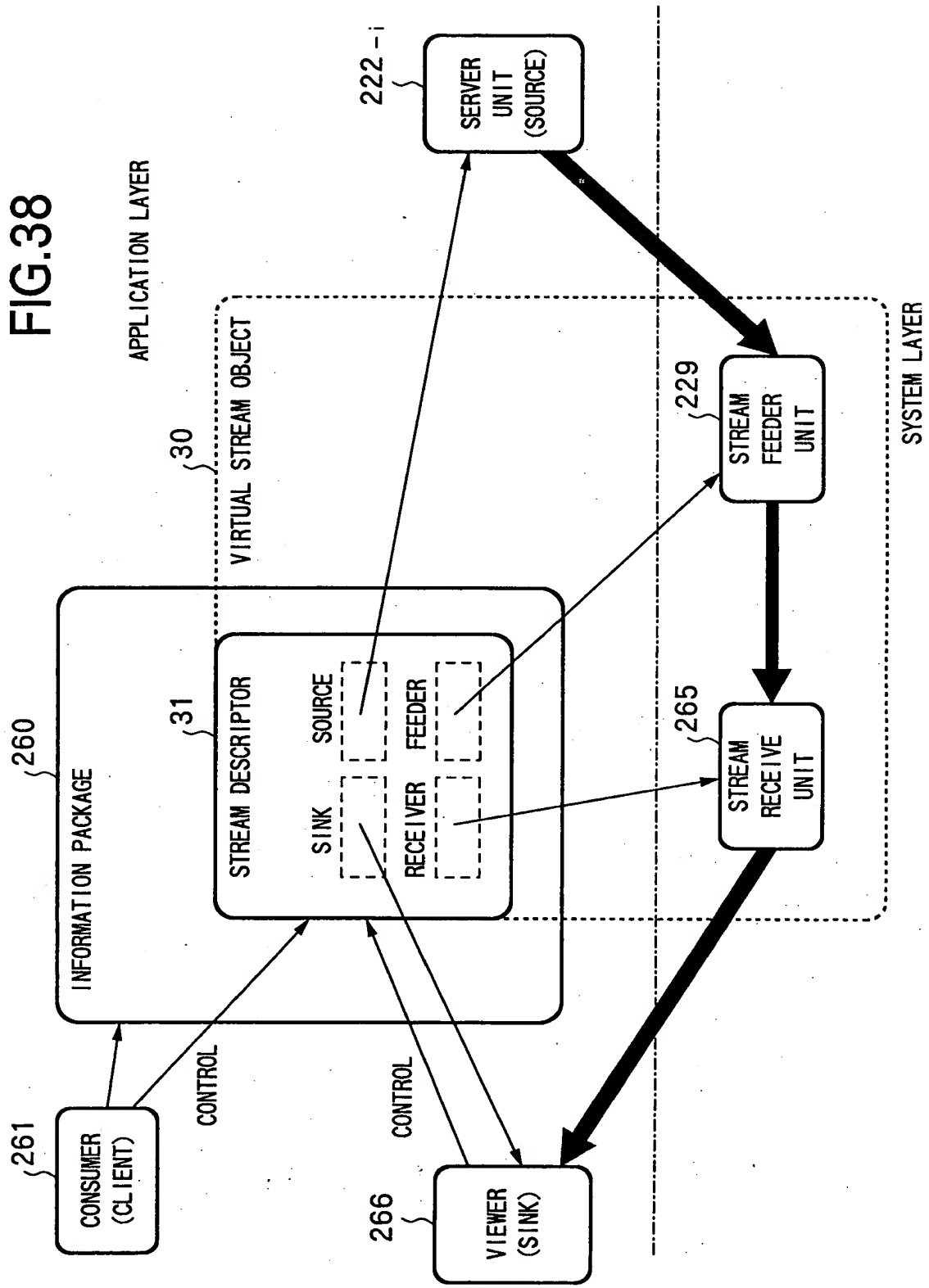


FIG.39

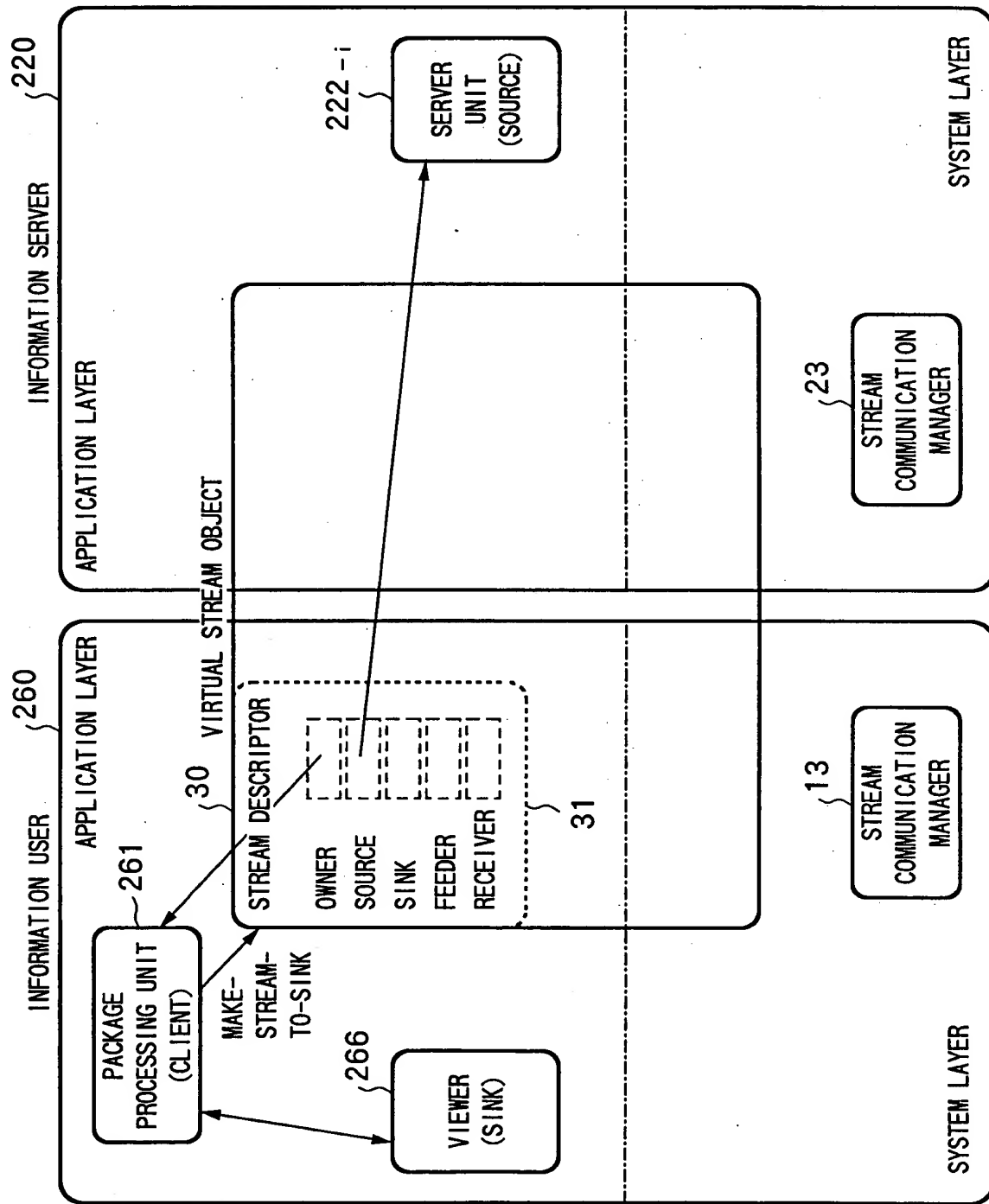


FIG.40

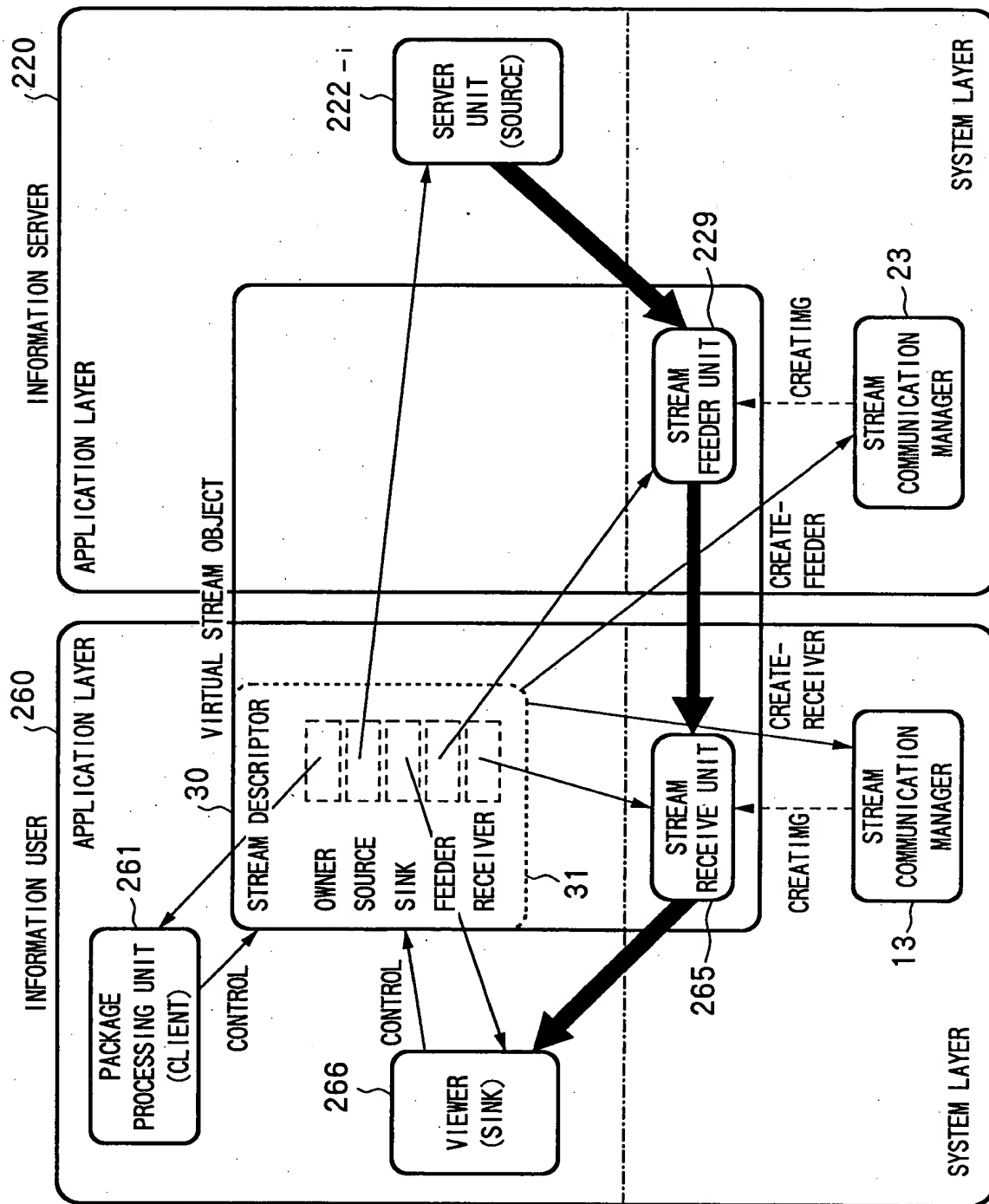


FIG.41

SEQUENCE SCRIPT

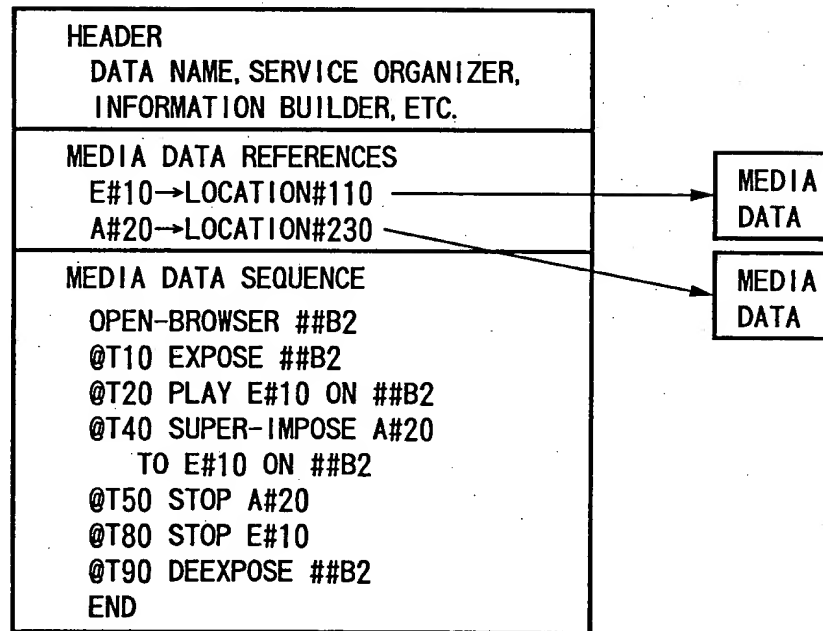


FIG.42

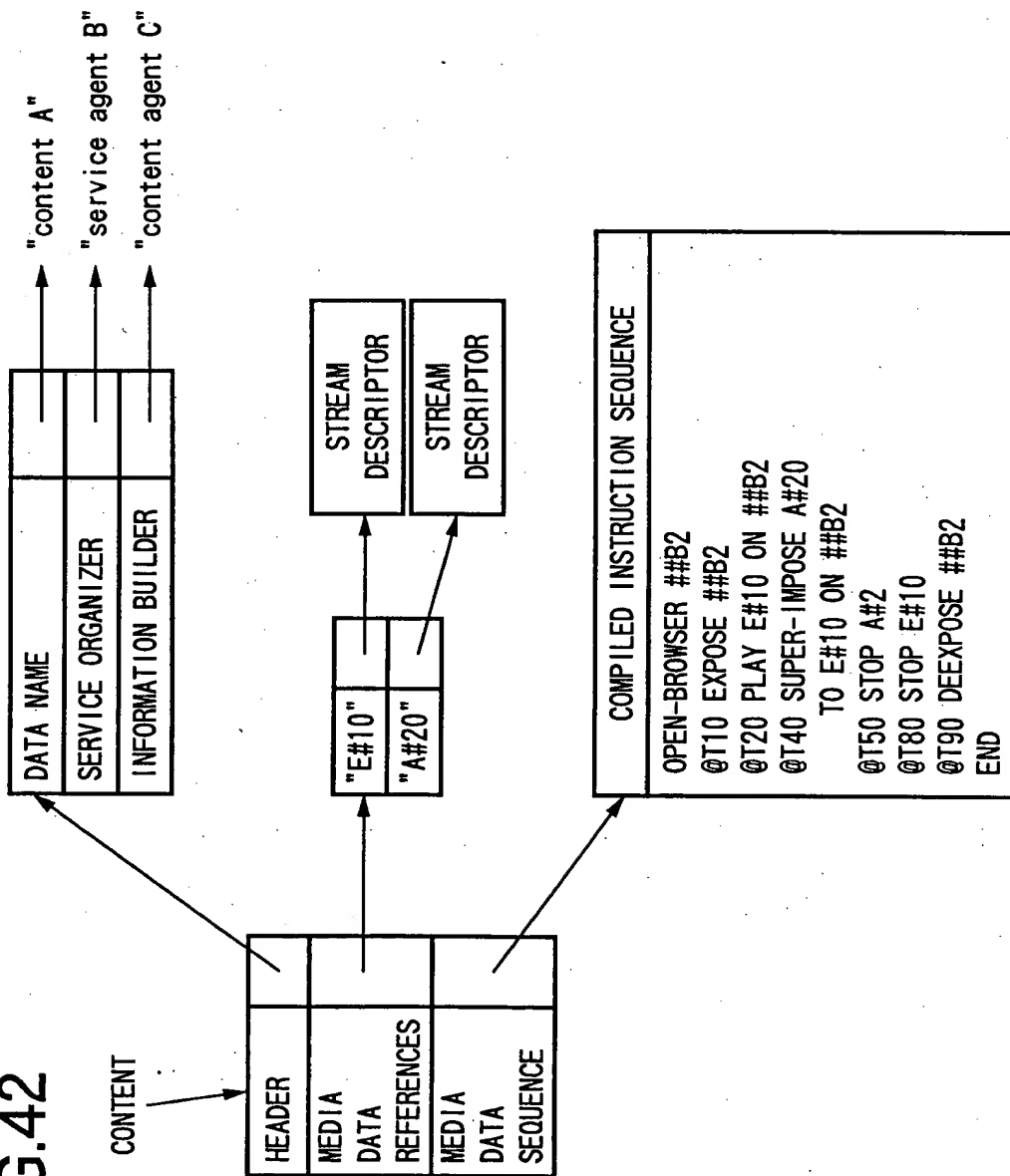




FIG.43

CreateStream

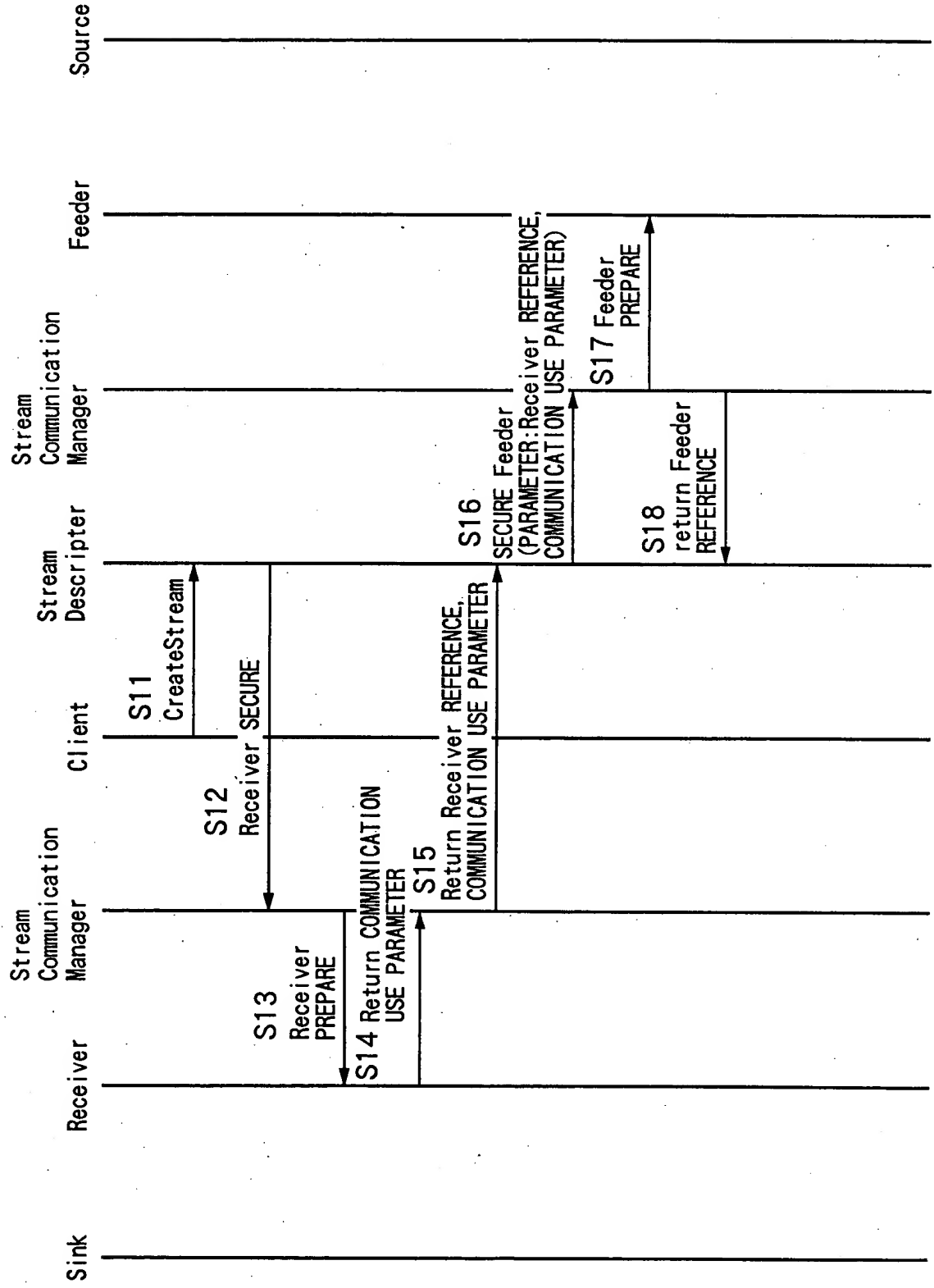
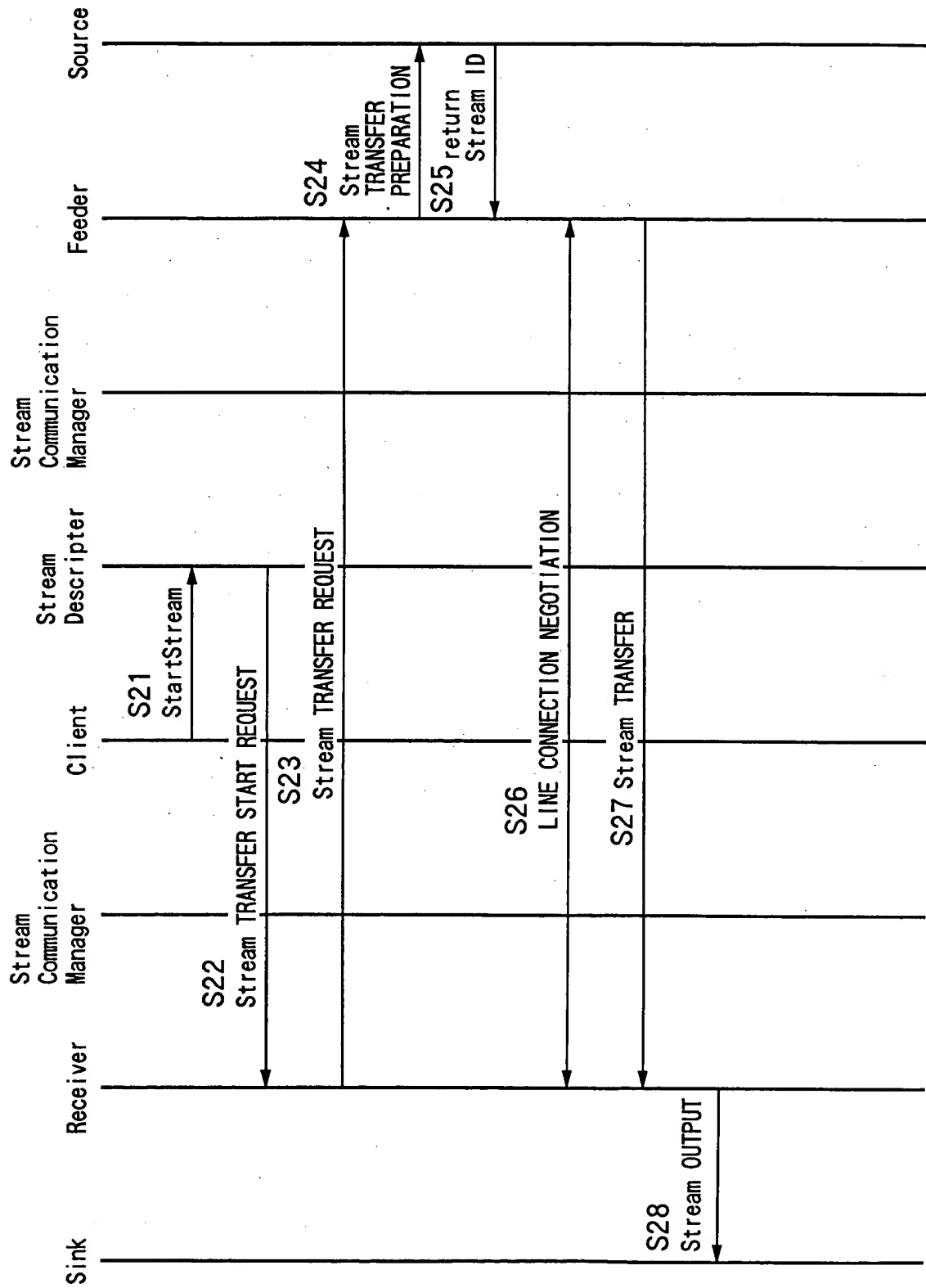


FIG.44

StartStream



1944

The diagram illustrates a system architecture. On the left, a large bracketed area labeled 220 contains two input blocks, 222-1 and 222-2. Arrows from these blocks point to a central processing block 30. Inside block 30, the signal flows from a top block 50 through a middle block 229 to a bottom block 265. An arrow from block 265 points to an output block 266, which is located within a larger bracketed area on the right labeled 260.

Patent Office

FIG. 45B

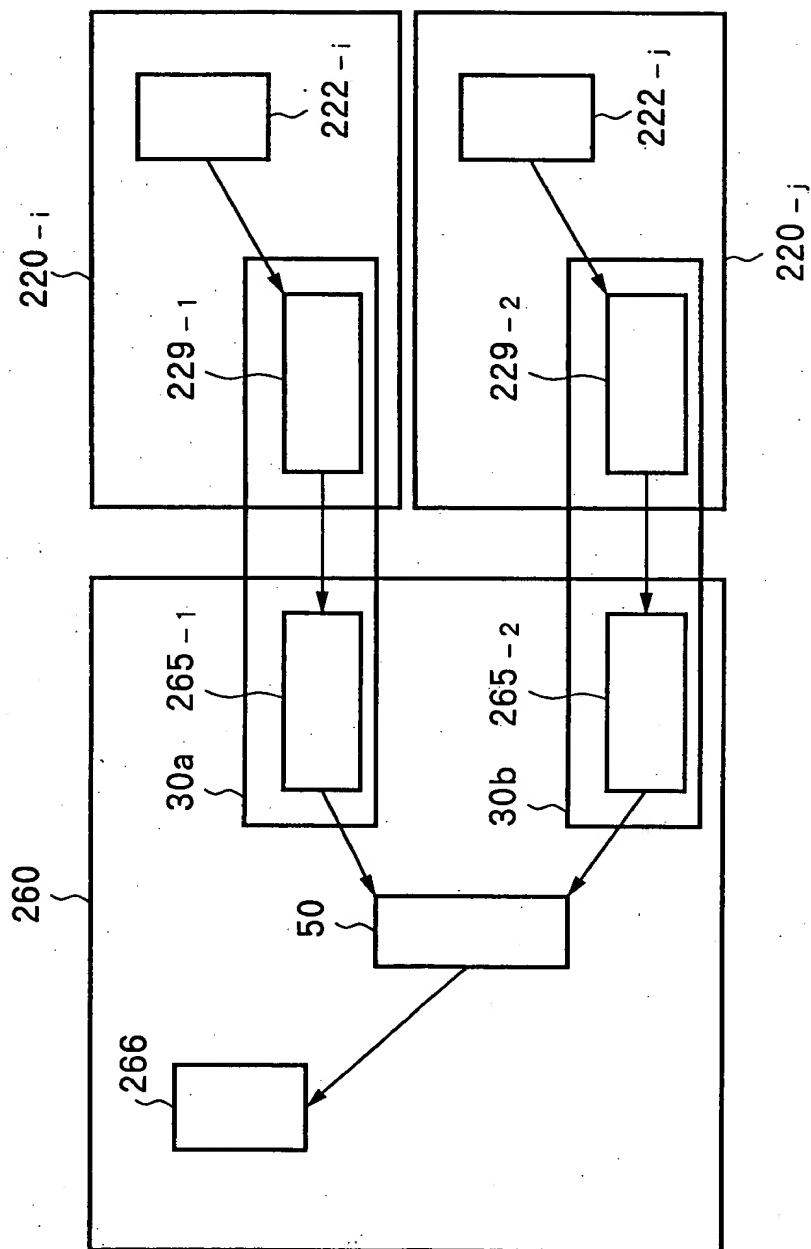


FIG.46

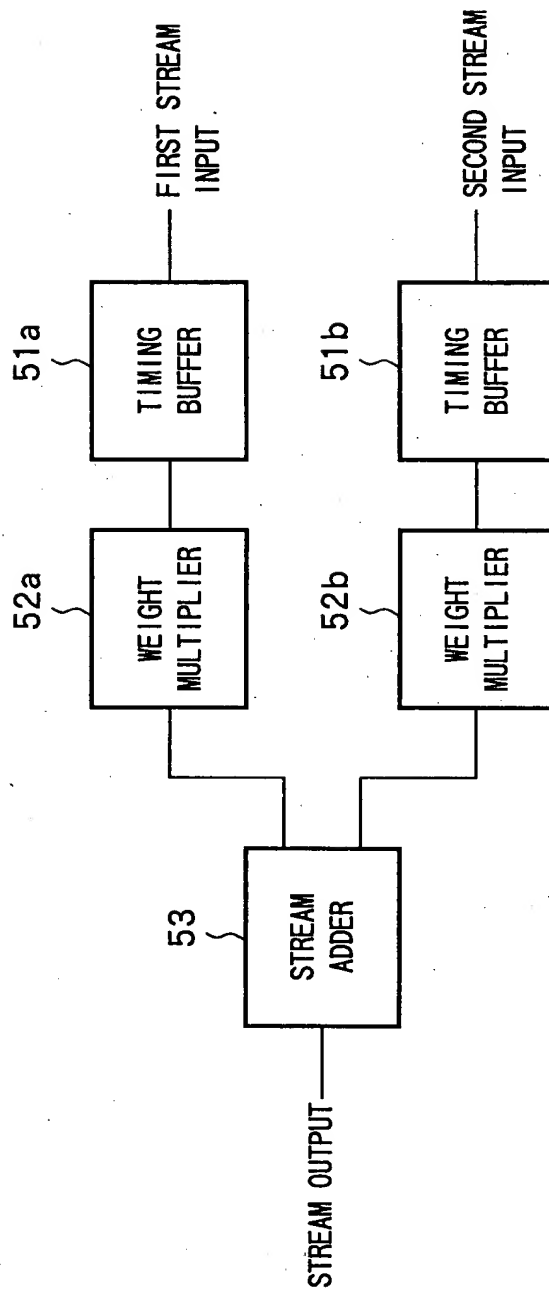


FIG.47A

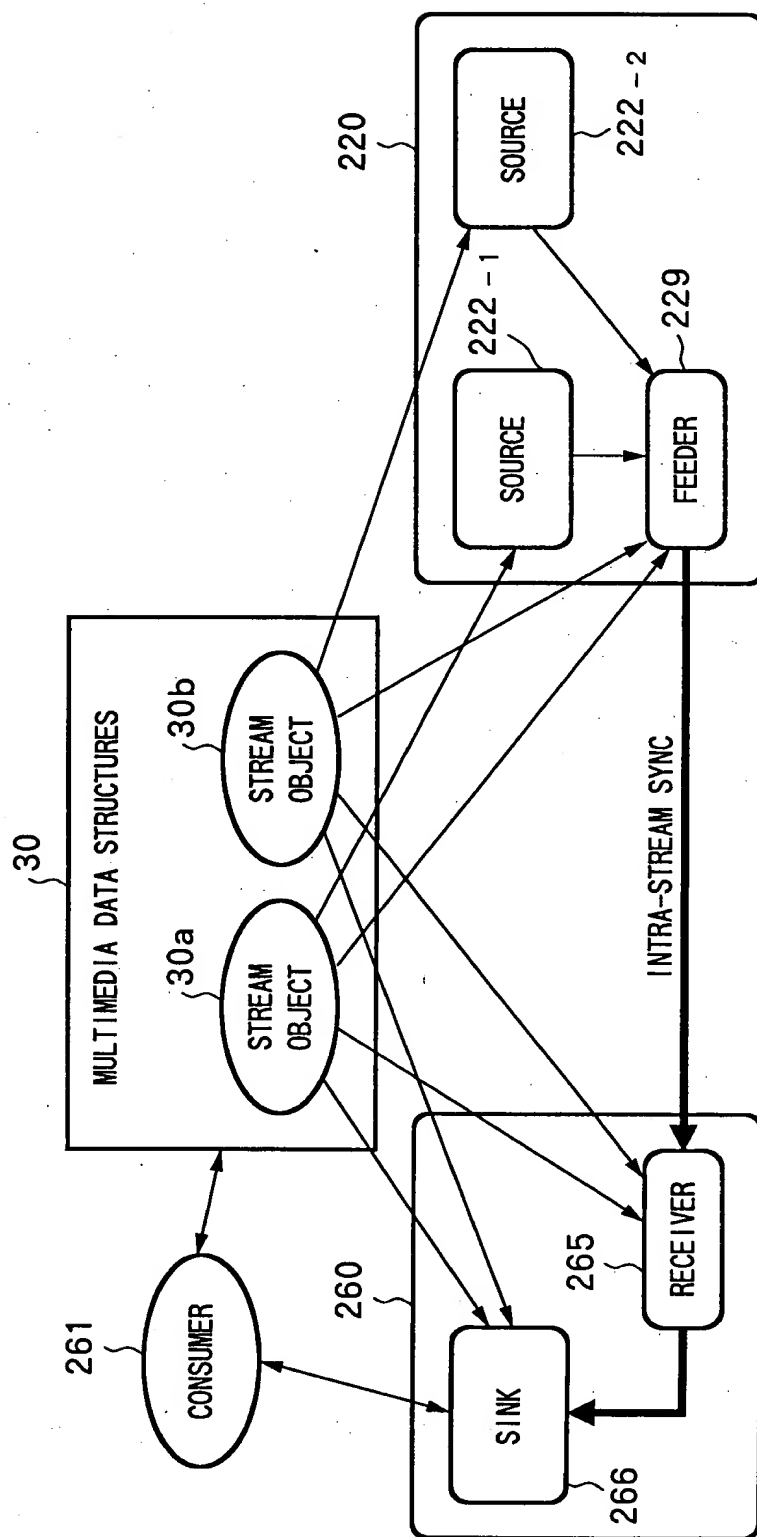


FIG. 47B

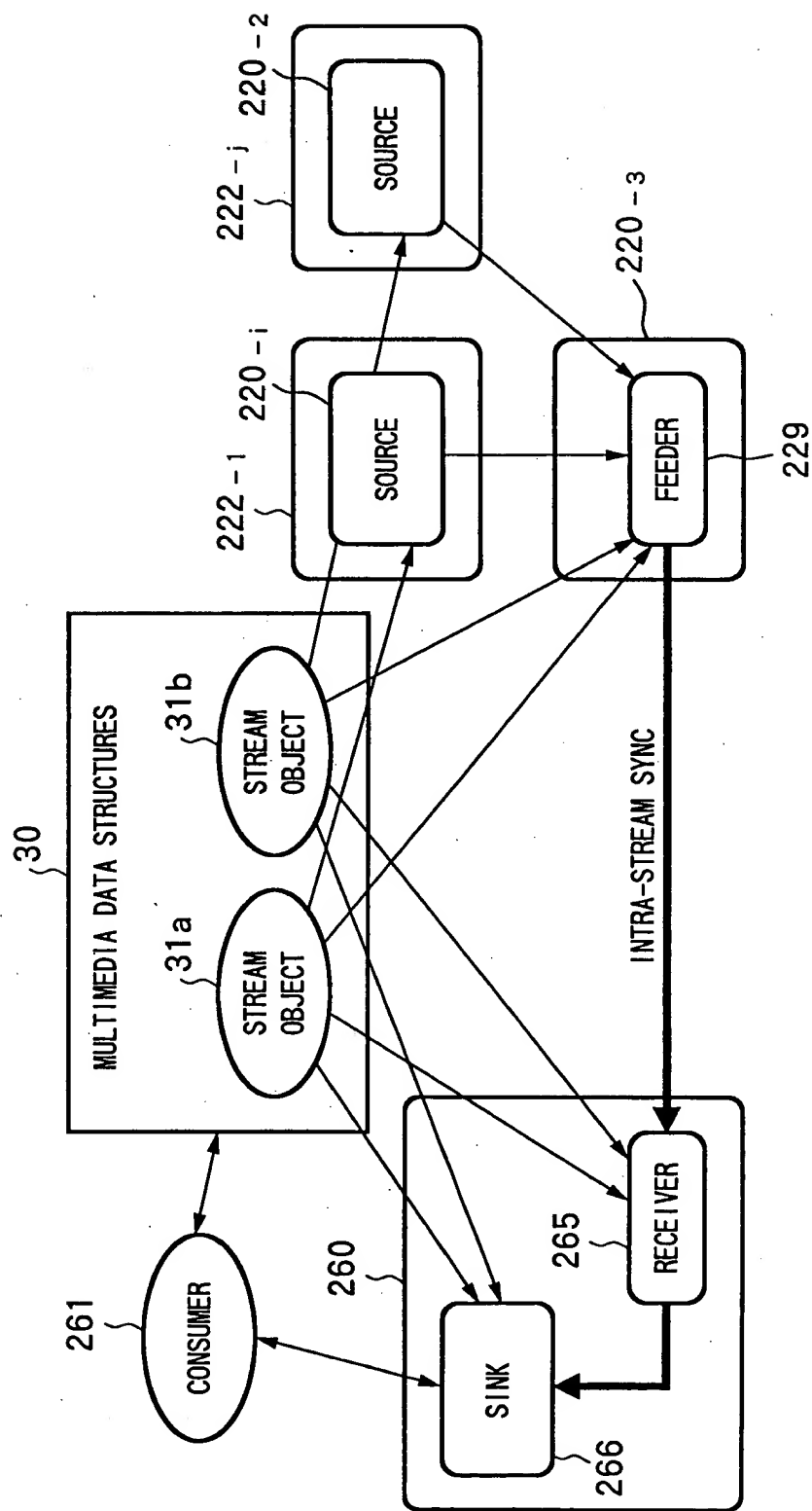
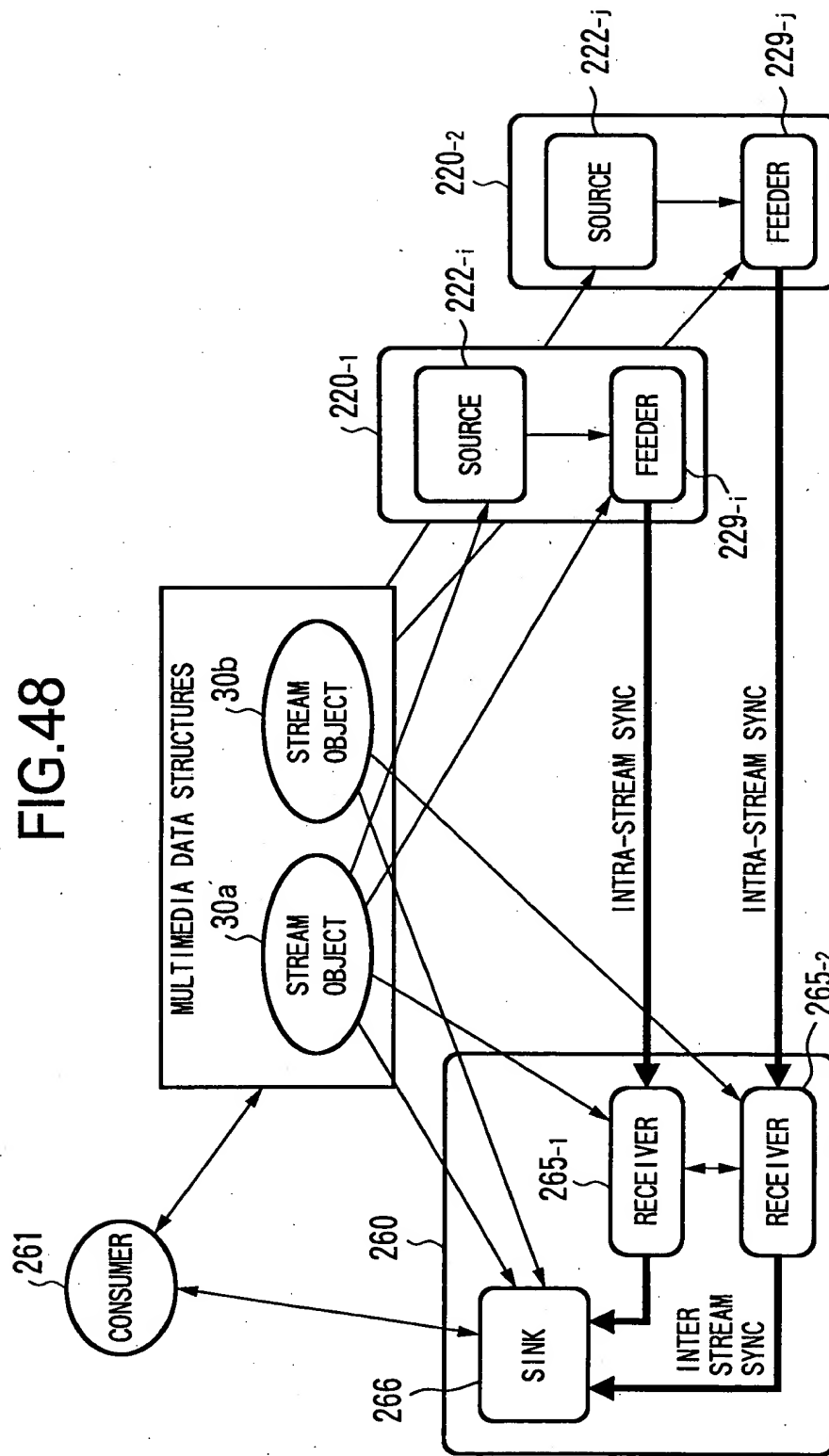


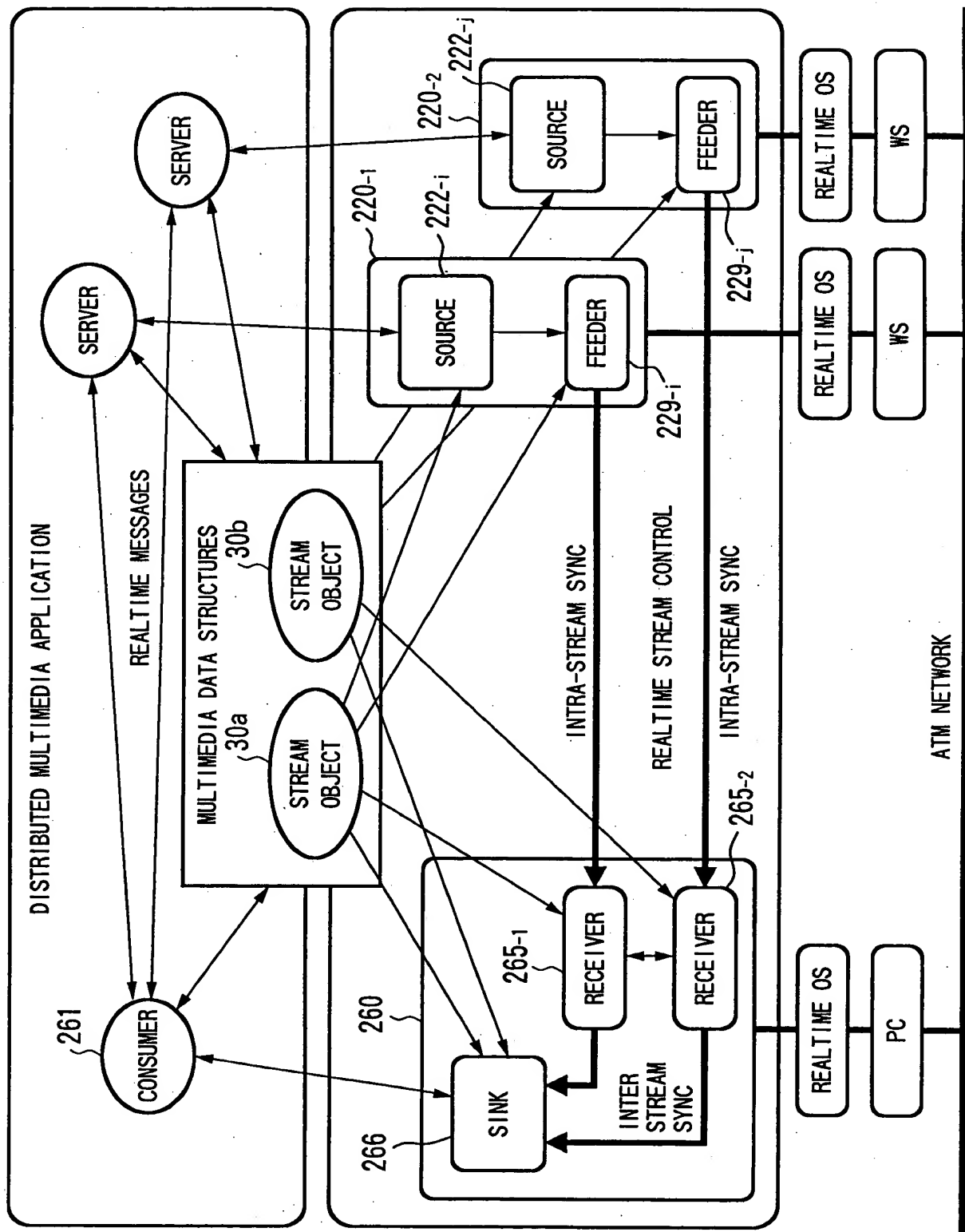
FIG.48

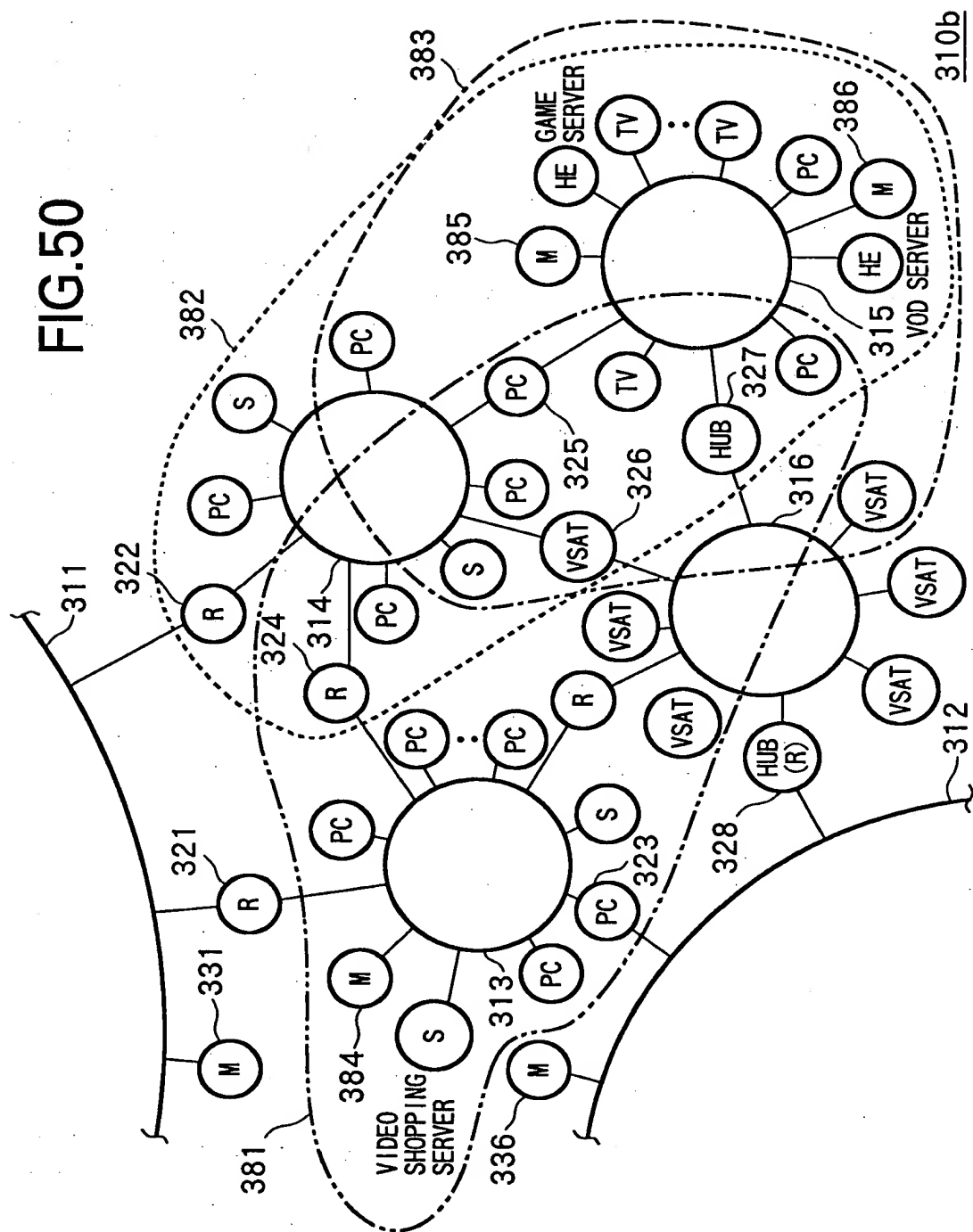




Patented by

FIG.49





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```
(mediate instruction destination task result-handling token-ID
  origin-node origin-mediator token-sender co-successors)
```

search, connect, perform, or collect

```
((name "F00 Movie Services Server")
 (reference 'domain local node reference')
 (object-name "package-server")
 (object-reference 'domain local object reference')
 (network-domain network-provider)
 (problem-domain "multimedia-network-service")
 (application-domain "video-on-demand")
 (communication-medium internet))
```

(object method arguments)

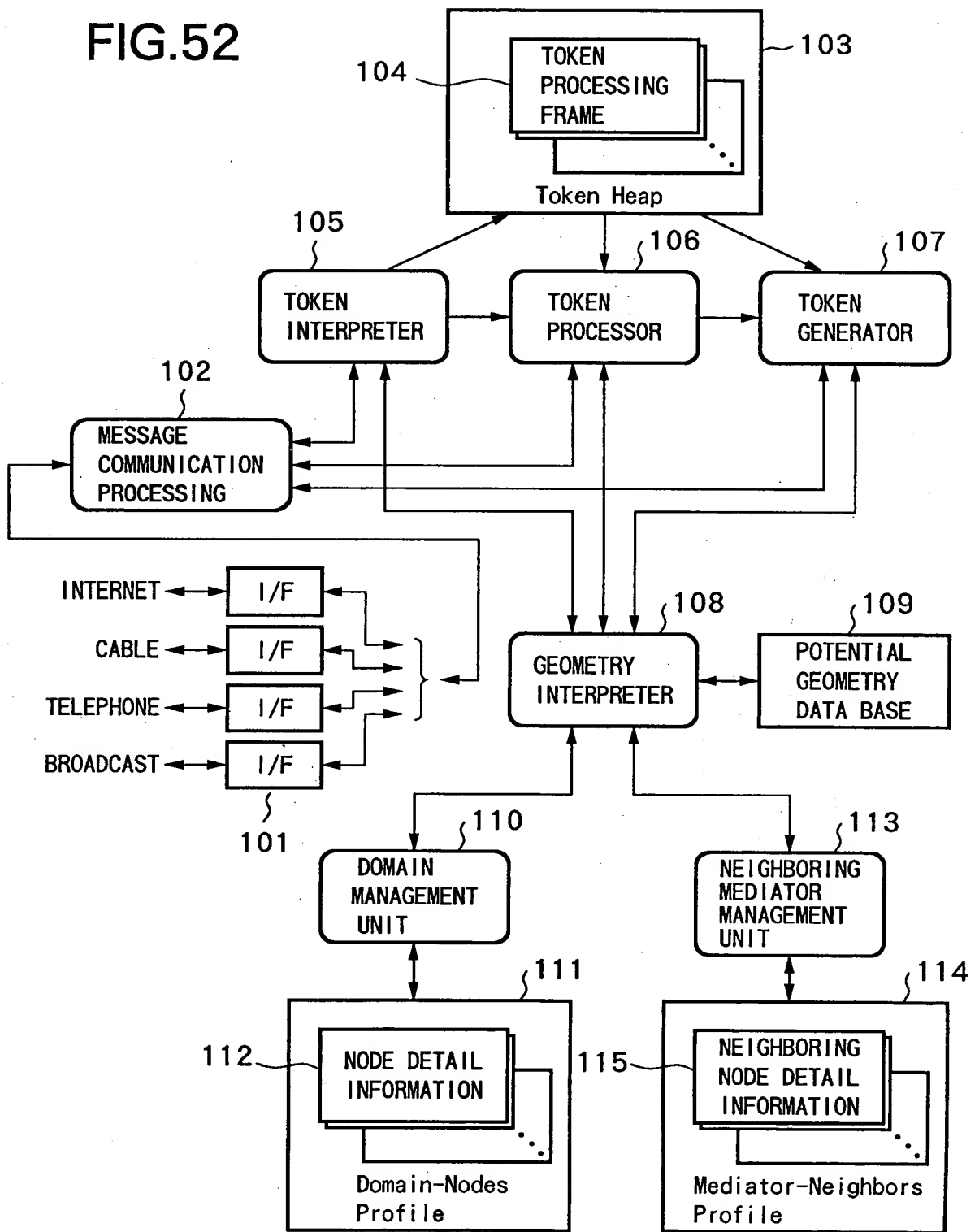
return-value, return-status, store, and/or propagate

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(mediate

```
((name "F00 Movie Services Server")
 (reference 'domain local node reference')
 (object-name "package-server")
 (object-reference 'domain local object reference')
 (network-domain network-provider)
 (problem-domain "multimedia-network-service")
 (application-domain "video-on-demand")
 (communication-medium internet))
(object method arguments)
(return-value return-status)
token-ID
node-reference
node-reference
node-reference
(node-reference node-reference ... node-reference)
)
```

FIG.52



# FIG.53

NAME	"F00 Movie Services Server"
REFERENCE	'domain-local-node-reference'
OBJECT NAME	"package-server"
OBJECT REFERENCE	'domain-local-object-reference'
NETWORK DOMAIN	network provider
PROGRAM DOMAIN	"multimedia-network-service"
APPLICATION DOMAIN	"video-on-demand"
COMMUNICATION MEDIA	internet

104 Token Processing Frame

INSTRUCTION	search
DESTINATION	
TASK	
PROCESSING RESULT	
TOKEN ID	token-ID
ORIGIN NODE	'node reference'
ORIGIN MEDIATOR	'node reference'
ARRIVAL NODE	'node reference'
ARRIVAL MEDIATOR	'node reference'
PREDECESSOR	'node reference'
SUCCESSOR	
PROCESSING STATE	delegating

object
method
arguments

return-value
return-status

'node reference'
'node reference'
⋮
'node reference'

FIG.54

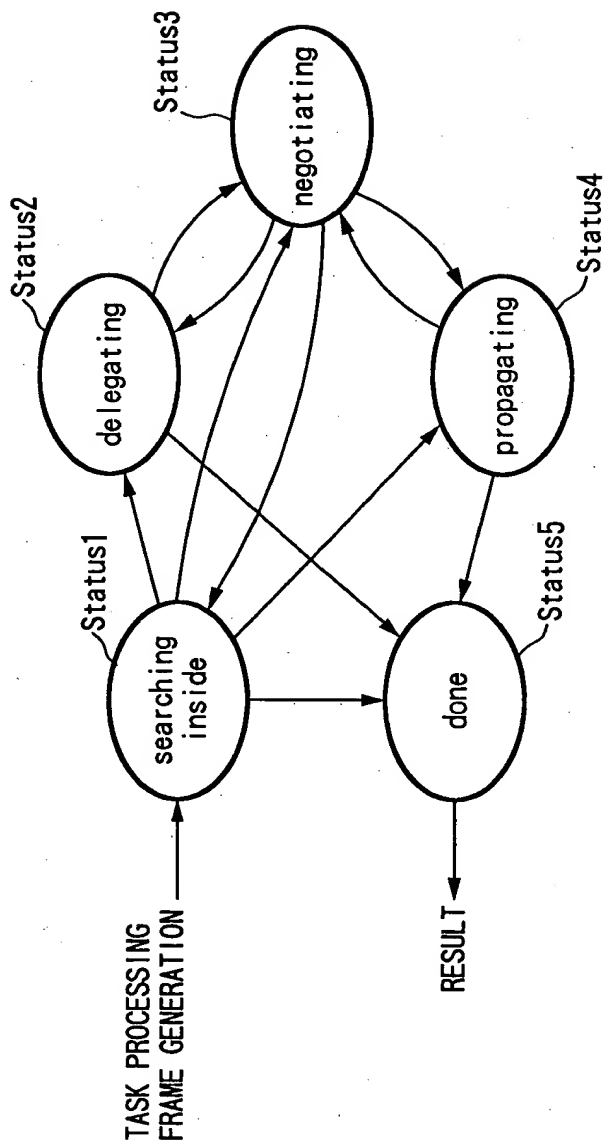


FIG.55

Network Domains

((domainN-1 (domainN-1i distance) (domainN-1j distance) ... (domainN-1k distance))  
 (domainN-2 (domainN-2i distance) (domainN-2j distance) ... (domainN-2k distance))  
 ...  
 (domainN-N (domainN-Ni distance) (domainN-Nj distance) ... (domainN-Nk distance)))

Problem Domains

((domainP-1 (domainP-1i distance) (domainP-1j distance) ... (domainP-1k distance))  
 (domainP-2 (domainP-2i distance) (domainP-2j distance) ... (domainP-2k distance))  
 ...  
 (domainP-N (domainP-Ni distance) (domainP-Nj distance) ... (domainP-Nk distance)))

Application Domains

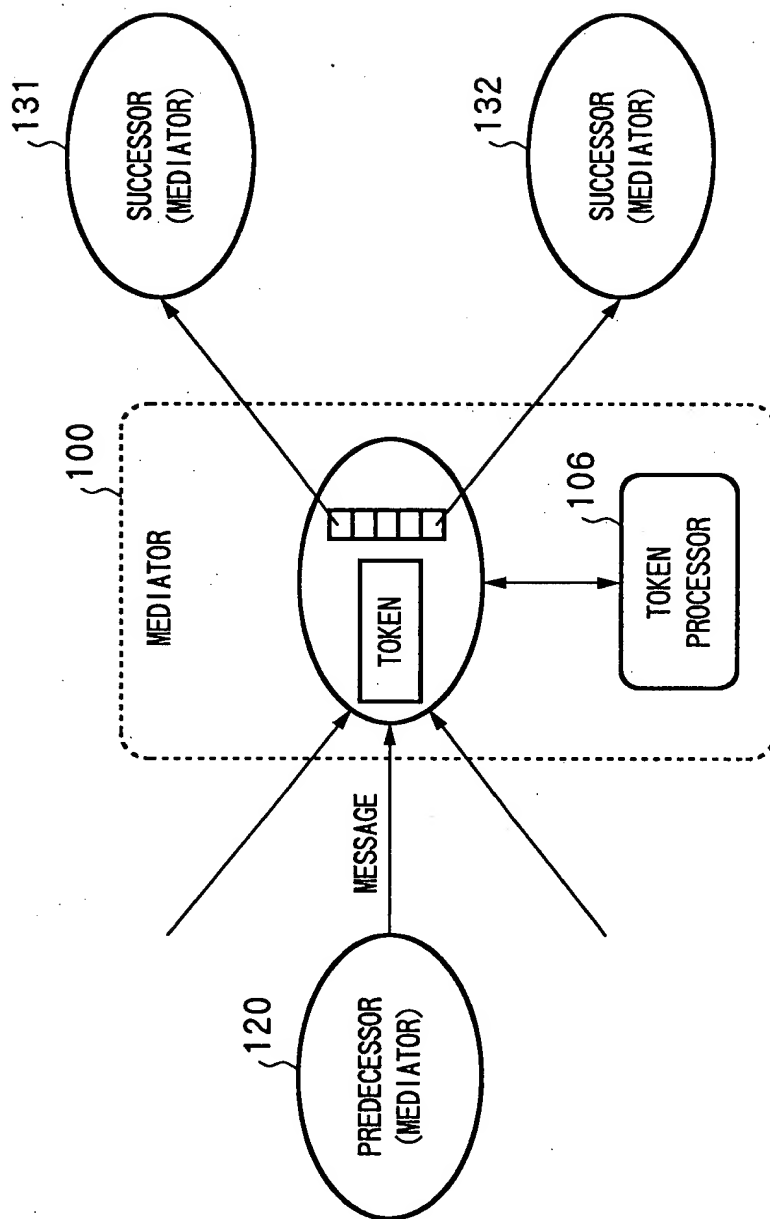
((domainA-1 (domainA-1i distance) (domainA-1j distance) ... (domainA-1k distance))  
 (domainA-2 (domainA-2i distance) (domainA-2j distance) ... (domainA-2k distance))  
 ...  
 (domainA-N (domainA-Ni distance) (domainA-Nj distance) ... (domainA-Nk distance)))

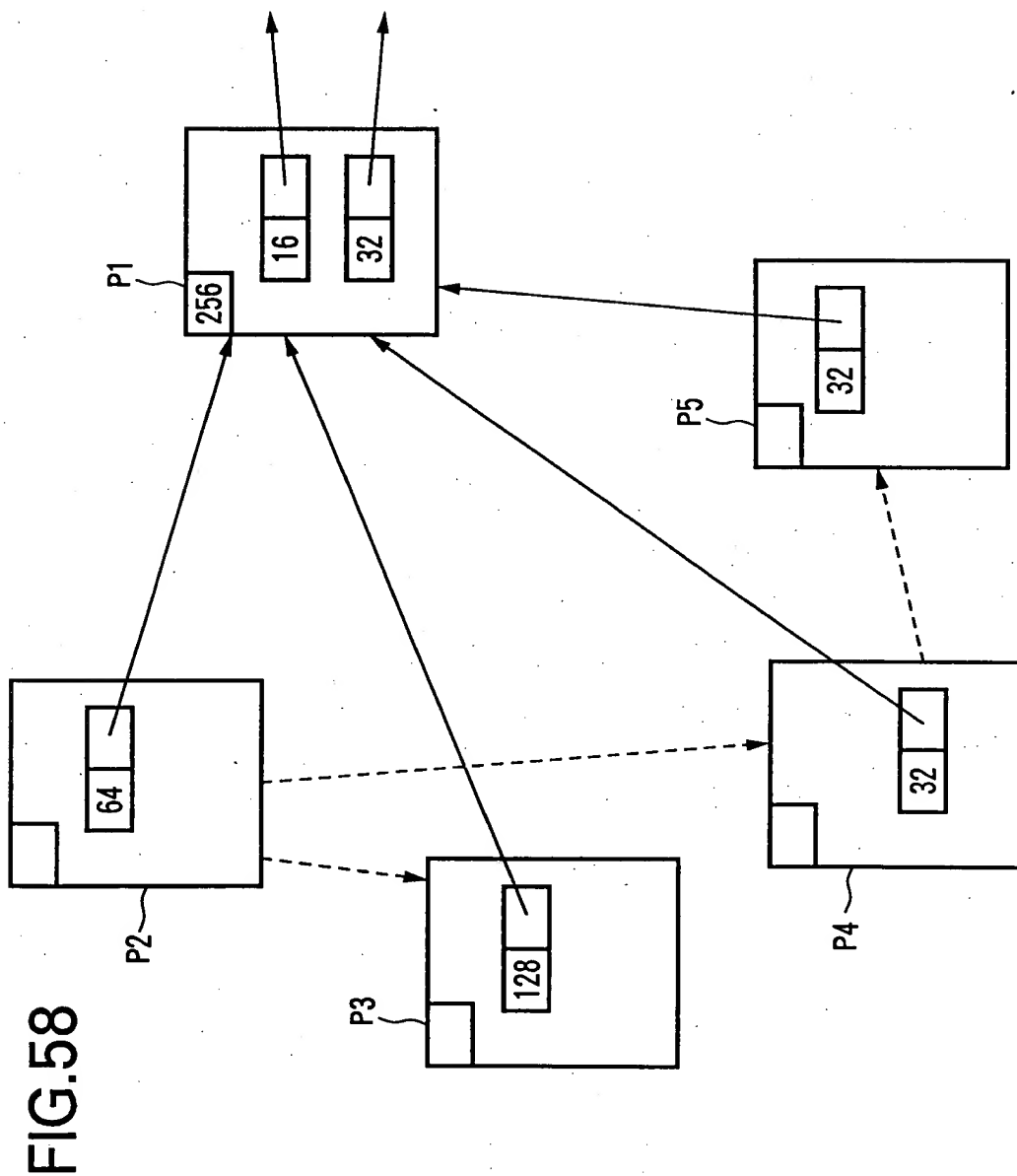
FIG.56

NODE SERVER	VoD server
NODE NAME	XXX
REFERENCE	'node reference'
COMMUNICATION MEDIA	internet
OWNER NAME/REFERENCE	'node reference'
NETWORK DOMAIN	network provider
PROGRAM DOMAIN	multimedia network
APPLICATION DOMAIN	video-on-demand



FIG. 57





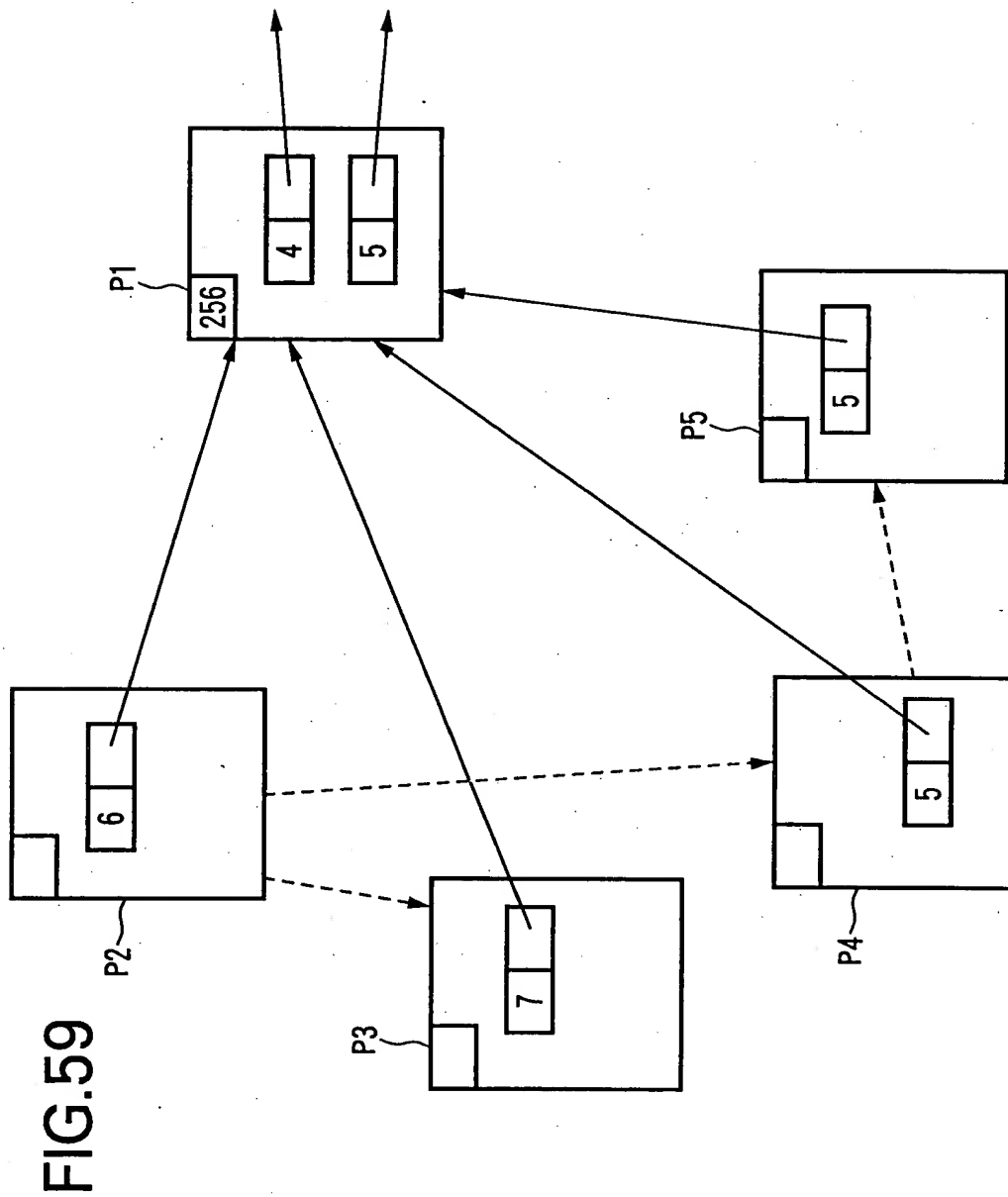


FIG.60

24, 855, 698, 147

18 net-resource://picture-server/picture11  
42 net-resource://audio-server/audio11  
33 net-resource://audio-server/audio12  
47 net-resource://video-server/video11  
31 net-resource://animation-server/animation11  
57 net-resource://package-server/package2  
54 net-resource://package-server/package3  
58 net-resource://package-server/package4  
55 net-resource://package-server/package5  
49 net-resource://package-server/package6

PACKAGE BODY

## FIG.61

```

<package>
  <title format=DVL version=2.0>
    <cover format=jpeg> & cover-description </cover>
    <name>"F00 Movie Services:Star Wars Trilogy" </name>
    <sort> CONTENT <minor-sort> MOVIE </minor-sort> </sort>
    <system> PACKAGE-PROCESSOR </system>
    <structure> <linkage> <local-link> & linkage-part </local-link> <linkage>
      <content-attributes> <local-link> & content-attribute-part </local-link>
        </content-attributes>
      <control-attributes> <local-link> & control-attribute-part </local-link>
        </control-attributes>
      <sequences> <local-link> & sequence-part </local-link> </sequences>
    </structure>
    <IDENTITY cover-description {jpeg data body}>
  </title>

```

## FIG.62

<IDENTITY linkage-part

<linkage>

```
<link boundary=internal> <label> picture-link1 <label>
    net-resource://picture-server/picture31 </link>
<link boundary=internal> <label> audio1-link1 <label>
    net-resource://audio-server/audio31 </link>
<link boundary=internal> <label> audio1-link2 <label>
    net-resource://audio-server/audio32 </link>
<link boundary=internal> <label> video-link1 <label>
    net-resource://video-server/video31 </link>
<link boundary=internal> <label> package-link2 <label>
    net-resource://package-server/package2
    <content>
        <type> movie </type>
        <provider> F00 Movie Services </provider>
        <local-link> & content2 </local-link>
    </content>
    <control> admission-required </control>
</link>
<link boundary=internal> <label> package-link3 <label>
    net-resource://package-server/package3
    <content>
        <type> movie </type>
        <provider> F00 Movie Services </provider>
        <local-link> & content3 </local-link>
    </content>
    <control> admission-required </control>
</link>
<link boundary=internal> <label> package-link4 <label>
    net-resource://package-server/package4
    <content>
        <type> movie </type>
        <provider> F00 Movie Services </provider>
        <local-link> & content4 </local-link>
    </content>
    <control> admission-required </control>
</link>
</linkage>
```

## FIG.63

```
<!ENTITY content-attribute-part
  <content-attributes>
    <type> movie </type>
    <provider> F00 Movie Services </provider>
    <date> 1 August 1997 </date>
    <items> 3</items>
    <material format=MPEG2> MOVIE </material>
    <content>
      &content1
      &content2
      &content3
      &content4
    </content>
  </content-attributes>
<!ENTITY content1
  <content>
    <title> Star Wars Trilogy </title>
    <type> Science Fiction </type>
    <rating authority=MPAA> PG </rating>
    <screenplay> George Lucas </screenplay>
    <starring> Mark Hamill </starring>
    <starring> Harrison Ford </starring>
    <starring> Carrie Fisher </starring>
  </content>>
```

00443330 090498

## FIG.64

<!ENTITY content2

<content>

<title> Star Wars </title>

<length unit=minute> 121 </length>

<year> 1977 </year>

<review reviewer=Leonard Maltin> \*\*\* </review>

</content>>

<!ENTITY content3

<content>

<title> Empire Strikes Back </title>

<length unit=minute> 124 </length>

<year> 1980 </year>

<review reviewer=Leonard Maltin> \*\*\* </review>

</content>>

<!ENTITY content4

<content>

<title> Return of the Jedi </title>

<length unit=minute> 133 </length>

<year> 1983 </year>

<review reviewer=Leonard Maltin> \*\*\* </review>

</content>>

2025 RELEASE UNDER E.O. 14176



FIG.65

<!ENTITY control-attribute-part  
 <control-attributes>  
 <billing amount=3000 currency=JPY> package-based </billing>  
 <admitted-consumers>  
 <certification> F00 Movie Customers </certification>  
 </admitted-consumers>  
 <access-conditions> parental-guidance </access-conditions>  
 <execution-environment>  
 </user-unit-requirement>  
 <hard-drive-space> 40 </hard-drive-space>  
 <memory-space> 8 </memory-space>  
 <graphics> 640×480×16 </graphics>  
 <audio> 16 </audio>  
 </user-unit-requirement>  
 </execution-environment>  
 <encryption scheme=RSA key-sort=open> #87654321098765 </encryption>  
</control-attributes>>

FIG.66

```
<!ENTITY sequence-part
<sequences>
  <!ENTITY picture1
    <picture hsize=300 vsize=200 color=256>
      <source> <local-link> picture-link1 </local-link> </source>
    </picture>>
  <!ENTITY audio1
    <audio sampling-size=16>
      <source> <local-link> audio-link1 </local-link> </source>
    </audio>>
  <!ENTITY audio2
    <audio sampling-size=16>
      <source> <local-link> audio-link2 </local-link> </source>
    </audio>>
  <!ENTITY video1
    <video hsize=450 vsize=300 color=16 frame-rate=30>
      <source> <local-link> video-link1 </local-link> </source>
    </video>>
  <!ENTITY dialog1
    <dialog>>
      <title> F00 Movie Services </title>
      <impose> <local-link> & content1 </local-link> </impose>
      Please Select Movie Title
      <action> take <local-link> package-link2 </local-link>
        "Star Wars"
      </action>
      <impose> <local-link> & content2 </local-link> </impose>
      <action> take <local-link> package-link3 </local-link>
        "Empire Strikes Back"
      </action>
      <impose> <local-link> & content3 </local-link> </impose>
      <action> take <local-link> package-link4 </local-link>
        "Return of the Jedi"
      </action>
      <impose> <local-link> & content4 </local-link> </impose>
    </dialog>>
```

FIG.67

```
<!ENTITY viewer1
    <viewer min-hsize=440 min-vsize=330> </viewer>>
<open-window> & viewer1 </open-window>
<before delay=0 max-skew=500 duration=2> & picture1 & audio1 </before>
<while delay1=0 delay2=0 max-skew=80> & audio1 & video1 </while>
<before delay=0 max-skew=500> & audio1 & dialog1 </before>
<cobegin delay=0 max-skew=120> & audio2 & dialog1 </cobegin>
</sequences>>
</package>
```

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FIG.68

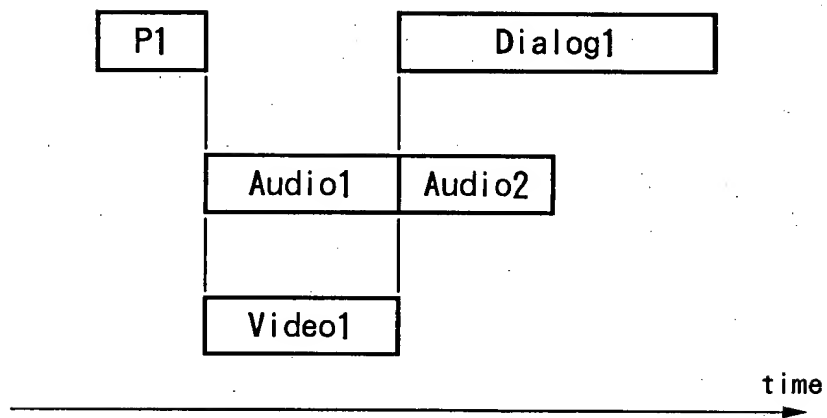


FIG.69

FOO Movie Services

title: Star Wars Trilogy  
type: Science Fiction  
rating: PG MPAA  
screenplay: George Lucas  
starring: Mark Hamill, Harrison Ford, Carrie Fisher

Please Select Movie Title

Star Wars

title: Star Wars  
length: 121 minutes  
year: 1977  
review: \*\*\*\* Maltin

Empire Strikes Back

title: Empire Strikes Back  
length: 124 minutes  
year: 1980  
review: \*\*\*\* Maltin

Return of the Jedi

title: Return of the Jedi  
length: 133 minutes  
year: 1983  
review: \*\*\*\* Maltin

## FIG.70

```
<package>
<title format=DVL version=2.0>
  <cover format=text> Client Function Sample provided by
    DVL Package Proccssing Systems </cover>
  <name>"DVL:Client Function Sample" </name>
  <sort> PROGRAM <minor-sort> Microsoft Windows </minor-sort> </sort>
  <system> PACKAGE-PROCESSOR </system>
  <structure> <linkage> <local-link> & linkage-part </local-link> <linkage>
    <content-attributes> <local-link> & content-attribute-part </local-link>
    </content-attributes>
    <control-attributes> <local-link> & control-attribute-part </local-link>
    </control-attributes>
    <sequences> <local-link> & sequence-part </local-link> </sequences>
  </structure>
</title>
<IDENTITY linkage-part
  <linkage>
    <link boundary=internal> <label> server-link1 <label>
      net-resource://sever-systems/movie-server-manager </link>
  </linkage>>
<IDENTITY control-attribute-part
  <content-attributes>
    <type> control-program <type>
    <provider> DVL Package Processor Systems </provider>
    <release> April 1997 edition </release>
  </content-attributes>>
<IDENTITY control-attribute-part
  <control-attributes>
    <billing > free </billing>
    <execution-environment>
      </user-unit-requirement>
      <operating> Windows 95 </operating-syatem>
      <cpu-type-&-speed> Pentium 120 </cpu-type-&-speed>
      <hard-drive-space> 4 </hard-drive-space>
      <memory-space> 2 </memory-space>
      <user-unit-requirement>
    </execution-environment>
  </control-attributes>>
```

## FIG.71

<!ENTITY sequence-part

<sequences>

<source-program language=C++type=header name="sample.hh">

//-----

// FILE: sample.hh

PACKAGE(Client) //DESIGNATE "Client" AS PACKAGE NAME

class F00 { //DEFINITION OF STRUCTURE TREATED AS

public: //MESSAGE ARGUMENT

int i; //INTEGER

char\* s; //STRING

double f; //MULTIPLE PRECISION FLOATING NUMBER

F00() { //CONSTRUCTOR

i=0;

s=NULL;

f=0;

}

};

PUBLIC class BAR { //DEFINITION OF DISTRIBUTED OBJECT "BAR" CLASS

//BECOMES CLIENT OBJECT IN COOPERATION WITH SERVER OBJECT

public:

int pid; //OBJECT IDENTIFICATION INTEGER VALUE

RemoteInstance server; //REFERENCE OF SERVER OBJECT

//CONSTRUCTOR : INVOKED BY CREATEOBJECT

BAR(int id, RemoteInstance ri) {

pid=id;

server=ri;

}

//DEFINITION OF METHOD "bee" OF DISTRIBUTED OBJECT

PUBLIC char\* bee(int i, char\*s, F00\* foo) {

//SEND MESSAGE TO CALL METHOD "FEE::fea"

//TO OBJECT server OF PACKAGE "Server"

//ARGUMENTS ARE: pid, "ABC"

void Send(server, "Server:FEE::fea", pid, "ABC");

return "ABC";

}

};

</source-program>

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## FIG.72

```

<source-program language=C++type=main name="sample.cc">
  //-----
  // FILE: sample.cc

  #include "system.hh" //HEADER FILE OF DISTRIBUTED SYSTEM LIBRARY
  #include "sample.hh" //HEADER FILE OF SAMPLE PROGRAM
  #define SERVER "server-link1" //INDICATE REFERENCE OF LINK PART

  main(void)
  {
    //GENERATE INSTANCE OF CLASS "FEE" OF PACKAGE "server" IN
    //"SERVER" PROCESS (DESTINATION REFERENCE IS RESOLVED AT
    //LINK PART)
    RemoteInstance ServerObject =
      CreateObject(
        "Server:FEE", "SERVER"); //DESIGNATE LOCATION OF OBJECT
    //GENERATE INSTANCE OF CLASS "BAR" OF PACKAGE "client" IN
    //"local" PROCESS. AT THIS TIME, HAND REFERENCE OF
    //IDENTIFICATION INTEGER VALUE 1234 OF INSTANCE AND REFERENCE
    //OF SERVER OBJECT TO CONSTRUCTOR
    RemoteInstance ClientObject =
      CreateObject("Client:BAR", "local",
        1234, ServerObject);

    //GENERATION AND INITIALIZATION OF STRUCTURE TREATED AS MESSAGE ARGUMENT
    FOO* foo=new FOO;
    foo->i=789;
    foo->s="DVL";
    foo->f=3.14;

    //SEND SYNCHRONIZATION MESSAGE TO CALL METHOD "bee", TO
    //OBJECT INDICATED BY ClientObject
    //ARGUMENTS ARE INTEGER VALUE 98765, STRING "abcdef"
    //AND STRUCTURE foo STRING.
    //AS A RESULT OF CALLING IS SUBSTITUTED FOR retVal
    char* retVal=SyncCall(ClientObject, "client:BAR::bee",
      98765, "abcdef", foo);

    return 0;
  }
</source-program>
</sequences>>
</package>

```



## FIG.73

```
<package>
  <title format=DVL version=2.0>
    <cover format=jpeg> &cover-description </cover>
    <name> "FOO Movie Services:Service Manager Sites" </name>
    <sort> DOMAIN </sort>
    <system> PACKAGE-PROCESSOR </system>
    <structure> <linkage> <local-link> &linkage-part </local-link> </linkage>
      <content-attributes> <local-link> &content-attribute-part </local-link>
        </content-attributes>
      </structure>
    <!ENTITY cover-description {jpeg data body}>
  </title>
  <!ENTITY linkage-part
    <linkage>
      <link boundary=external> <label> server-link1 </label>
        net-resource://server-manager1/F00-movie-server-manager</link>
      <link boundary=external> <label> server-link2 </label>
        net-resource://server-manager2/F00-movie-server-manager</link>
      <link boundary=external> <label> server-link3 </label>
        net-resource://server-manager3/F00-movie-server-manager</link>
      <link boundary=external> <label> server-link4 </label>
        net-resource://server-manager4/F00-movie-server-manager</link>
      <link boundary=external> <label> server-link5 </label>
        net-resource://server-manager5/F00-movie-server-manager</link>
    </linkage>>
  <!ENTITY content-attribute-part
    <content-attributes>
      <type> server-manager
        <local-link> server-link1 </local-link>
        <local-link> server-link2 </local-link>
        <local-link> server-link3 </local-link>
        <local-link> server-link4 </local-link>
        <local-link> server-link5 </local-link>
      </type>
      <provider> F00 Movie Services </provider>
      <release> June 1997 </release>
    </content-attributes>>
</package>
```